Refrigeration Service Engineer

VOL. 9 NO. 2 ★ ★ ★ FEBRUARY 1941

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COVER

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The Refrigeration Service Engineer

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Valve Ratings Relative to Compressor Capacities

By A. F. HOESEL *

A RECENT request to the Question Box for information on thermal expansion valve ratings relative to compressor capacities brings up several questions which apparently are somewhat confusing to some service men. Since the points brought up can be more cogently answered in the question and answer form, the following shall be in that form:

Why Are Compressors Rated in Horse Power?

A compressor is merely a pump which moves a low pressure vapor issuing from a cooling unit to a higher pressure condenser, wherein the vapor surrenders heat to either air or water and becomes liquefied. Since the compressor does work, we must necessarily supply power to it.

Now the amount of power that the compressor will absorb will naturally depend upon the amount of work that the compressor does.

A given compressor naturally has a certain bore and stroke as well as a certain number of cylinders; therefore, for every revolution of such compressor, there will be a certain number of cubic inches of vapor moved from the low pressure side (suction) to the high pressure side (condenser).

There are just three variable conditions which determine the amount of power necessary for a given compressor. They are:

First—the suction pressure of the refrigerant.

Second—the condensing pressure of the refrigerant.

Third—the speed in rpm of the compressor.

Under the first condition, we find that high suction pressures take more power per rpm, because the pressures on the pistons rise more rapidly during the piston upstroke; therefore, there is a greater resistance to the piston movement by the crankshaft, which is driven by the motor. We can now state that for a given rpm and a given condenser pressure, the horsepower requirements will increase with increasing suction pressures, and vice versa.

Under the second condition, we find that higher condensing pressures take more power, because the pressure upon the pistons must reach a higher value before the pistons reach the top of the stroke. A common example is a hand tire-pump, which takes an increasing amount of effort as the pressure within the tire increases. We can now state

* Flow Controls, Inc., Chicago, Ill.

that for a given rpm and a given suction pressure, the horsepower requirements will increase with increasing condensing pressures, and vice versa.

Under the third condition, it certainly is obvious that for any certain suction and condensing pressures, the faster we operate the compressor the more power it becomes necessary to apply, and vice versa.

From the above it is obvious that there are almost unlimited variations in the power demand of a given compressor.

We are now confronted with the fact that compressor horsepower has no meaning unless we know which point, of suction pressure at least, it is based upon. To put it plainly, we cannot know, in point of refrigerating capacity, just what a certain horsepower compressor can accomplish unless we at least know the certain suction pressure upon which such compressor is rated.

Consulting a representative compressor manufacturer's catalog, we find that for a given compressor there are three different rpm for the same size of motor horsepower. For low-temperature work with corresponding low suction pressures, the compressor has a high rpm. For medium-temperature work with corresponding medium suction pressures, the compressor has a medium rpm, and for high-temperature work with corresponding high suction pressures, the compressor has a low rpm.

TABLE 1. SHOWING VARIATION OF COMPRESSOR REFRIGERATING CAPACITY WITH VARIATION IN SUCTION PRESSURE. NOTE THAT HORSEPOWER IS NO DIRECT INDICATION OF COMPRESSOR CAPACITY.

SUCTION PRESSURE GAUGE	CONDENSING PRESSURE LBS. GAUGE	B.T.U. PER HOUR	RPM	MOTOR HP
3" vac.	105	7,000	560	1½
5 lbs.	105	11,200	560	1½
13 lbs.	105	13,400	475	1½
28 lbs.	105	18,100	400	1½

To get the real capacity in B.t.u. per hour of a given compressor, it becomes necessary to consult the manufacturer's rating tables for the particular condition of operation, such as the rpm of the compressor, the suction pressure, and the condensing pressure. Any estimate of refrigerating capacity based upon horsepower alone might vary too greatly, unless one happens to be acquainted with the particular model of compressor under the particular conditions of operation.

Table 1 shows the variation in capacity of a particular compressor under different suction pressures on methyl chloride. From this table it is evident that motor horsepower alone is no indication of the refrigerating capacity of the compressor.

What Does Tonnage Rating Mean

The tonnage rating on refrigeration equipment means that for every given ton of rating, 12,000 B.t.u. per hour heat work is accomplished. This tonnage rating is a carryover from the early days when ice was used to do the cooling, and the rating was generally expressed as so many pounds or tons of ice which were melted during the daily period of 24 hours. Since one pound of ice takes up 144 B.t.u. in melting to water at 32° F., we have $144 \times 2{,}000 = 288{,}000$ B.t.u. per ton of ice-melting effect, and the hourly B.t.u. rate is $288{,}000 \div 24 = 12{,}000$ B.t.u.

A one-ton compressor can pump enough of the particular refrigerant vapor out of a cooling unit and into a condenser, in order to extract 12,000 B.t.u. per hour from the cooling unit under the particular conditions of operation. Note in Table 1 that the compressor capacity varies with the suction pressure; therefore, a one-ton compressor is of that capacity corresponding to the suction pressure of the refrigerant used.

A one-ton rated thermal expansion valve has a valve orifice size and valve lift which, at the particular conditions specified, can supply sufficient refrigerant liquid to the cooling unit, required to produce the amount of vapor the one-ton compressor evacuates from the cooling unit in doing the 12,000 B.t.u. per hour heat work.

What Determines the Capacity of An Expansion Valve

The capacity of an expansion valve is determined by four conditions:

First—Quality of refrigerant liquid entering the valve.

Second—Size of the valve orifice passage.

Third—Lift of the valve away from its seat.

Fourth—Pressure difference between the inlet and outlet of the valve.

Under the first of the above conditions, *quality of liquid entering the valve*, we are referring to whether or not vapor slugs may be present in the liquid line. If the suction line has an excessive vertical height, or if it passes close to steam lines or some other

sources of excessive heat, and even if the liquid line sizes are too small to prevent excessive pressure drops between the receiver and the expansion valve, a certain amount of vapor will be generated in the liquid lines. Obviously a valve rated to pass a given amount of liquid in a given period of time cannot pass both that given amount of liquid plus another quantity of vapor. While rather infrequently encountered, such vapor slugs may, in many instances, be at least temporarily obviated by increasing the condensing pressure sufficiently. Recourse to this method may be permanent in case of excessive vertical heights, but in the other cases the remedy is obvious.

Under the second of the above conditions, *size of valve orifice passage,* this is determined by the manufacturer for a given valve rating. The mere fact that several valves of different manufacture might have the same size valve orifice is no indication that all of these valves have the same capacity. Valves should be ordered by capacity rating rather than orifice size, unless the purchaser is thoroughly acquainted with the particular valve and orifice size for the job on which it is to be used.

Under the third of the above conditions, *lift of valve away from its seat,* this is something that need not concern the user, as it is entirely under the control of the manufacturer and properly established for getting the rated capacity for given conditions.

Under the fourth of the above conditions, *pressure difference between the inlet and outlet of the valve,* this refers to the difference in pressure between the condenser and the cooling unit, where the liquid lines are neither too small nor of great vertical height. Obviously, the greater the pressure difference, the more liquid can be passed through a given valve, and vice versa.

Can the Capacity of An Expansion Valve Be Regulated by Adjusting the Superheat

It is erroneous to assume that a thermal expansion valve can be regulated, in point of capacity, by means of adjusting the superheat to a higher or lower value. All that superheat adjustment can do is to vary the amount of refrigerant fed to a given cooling unit for a given condition of operation.

To illustrate, let us take a one ton valve set for, say, 10° F. superheat and connect it to, say, a quarter-ton capacity coil. The valve will now pass a certain amount of refrigerant in a given time. Let us take this same valve and now install it upon a one-ton capacity coil. The valve will now pass approximately four times the amount of refrigerant. If, in this last case, we adjust the valve for much more superheat than the original 10° F., we would find that the valve still passed more refrigerant than when connected to the quarter-ton capacity coil. Taking the valve, now adjusted to more than the original 10° F. superheat, and again placing it on the quarter-ton capacity coil, we would find that the valve now was passing less refrigerant than originally. Superheat adjustment does not vary the capacity of a thermal expansion valve. It merely varies the amount of refrigerant fed to a given coil under given operating conditions.

In What Manner Does a Thermal Expansion Valve Regulate Its Capacity

Previous mention was made that valve lift was one of the factors controlling capacity. Now, when we state that an expansion valve is adjusted for 10° F. superheat, this is not exactly true since it takes several degrees variation in superheat to move the valve from just open to full open. This may amount to between 3° F. to 5° F. Therefore, the exact superheat of operation depends upon the position of the valve. Assume the valve adjusted for 8° F. superheat at just open, then at full open the valve would operate at 11° F. or possibly 13° F. This is mainly due to the spring under the diaphragm, and as we all know, more pressure must be applied in order to further compress a spring, irrespective of how small the amount, and the only way this extra pressure can be generated is by additional superheat.

Assume that the previously mentioned valve (one-ton capacity) was adjusted for 8° F. superheat at just open and that at the full open position the valve had moved .030 inch; we would find that with the one-quarter-ton capacity cooling unit the valve would be open about .007 inch and that the superheat would probably be approximately 9° F.

Putting this same valve, without readjustment, upon the one-ton coil, we would find that the valve would be open about .030 inch and that the superheat would be approximately 12° F.

In this particular manner the valve automatically adjusts itself to the cooling unit capacity, irrespective of the superheat setting for which the valve may be adjusted.

Should Expansion Valves Be Selected According to Compressor Capacity

On jobs having a single cooling unit connected to a single compressor, it is perfectly proper to select expansion valves having capacity equal to the compressor at the particular conditions of operation.

On multiple jobs having several cooling units connected to a compressor, the only proper method is to select for each individual cooling unit an expansion valve having capacity equal to the capacity of the particular cooling unit at the particular conditions of operation.

How Close Must Expansion Valve Capacity Be to Cooling Unit Capacity

For all practical purposes, it will be found that thermal expansion valves with not much more than twice the capacity of the cooling unit will generally prove satisfactory. It would be impractical to make a selection equal in both capacities, since a number of variables enter into the situation.

If an excessively large valve capacity relative to the cooling unit capacity is employed, there is a tendency for the valve to hunt, which results in periodic overfeeding and underfeeding to the cooling unit.

Estimating and Selling Commercial Refrigeration

Fifth Article

In the first part of this article the author outlines quick methods of calculating the refrigeration requirements of the Bar and Grill. The second part deals with the Restaurant and Cafeteria.

By S. C. MONCHER*

SINCE the repeal of prohibition, establishments serving beer and liquors have proven a very lucrative field for the commercial refrigeration salesman. Beer on draught must be kept under refrigeration not only to prevent spoilage, but also to make it more palatable to the drinker. A very effective method of accomplishing this is to store the barrels of beer in a walk-in refrigerator at 45°, and then to cool it to 40° in the dispensing unit from which it is served.

The serving of liquors involves the use of large quantities of cracked ice or ice cubes. By the use of mechanical refrigeration a source of ice cubes may be installed right

SURVEY SHEET FOR BEER DISPENSING EQUIPMENT

	WALK-IN REFRIGERATOR	BEER DISPENSER	UNDERCOUNTER REFRIGERATOR	ICE CUBE MAKER
Size (O. D.)	10x10x10	4x2x4—5 taps	5x2x3	1x1x3—40 lbs. ice
Insulation	4" cork	2" cork	2" cork	1" cork
Maximum outside temperature	85°	95°	95°	45°
Refrigerator temperature	45°	40°	40°	30°
Peak beer load		20 gallons per hour		
Peak ice load				18 lbs. per hour
Temperature of incoming water				70°

on the premises. This prevents the danger of a shortage due to the unavailability of outside sources at certain times.

The continued popularity of a bar depends in a large measure upon its ability to serve consistently cold drinks at all hours. Wherefore, the sales presentation should be based around the story that the proposed equipment is of sufficient capacity to take care of peak loads. Many a barkeeper has had the experience of having cold beer all day except during those hours when the demand is really heavy. It should also be pointed out that a good refrigeration system will cut down on beer waste by eliminating the draining of foamy beer whenever the dispenser has been idle for several hours.

TABLE 18—OVERALL HEAT GAIN FOR WALK-IN BEER PRECOOLER REFRIGERATOR, EXPRESSED IN B.T.U. PER SQUARE FOOT PER DEGREE PER 24 HOURS.

INSULATION IN.	UP TO 600 SQ. FT.	600-1600 SQ. FT.	1600-3500 SQ. FT.	OVER 3500 SQ. FT.
2	4.9	4.8	4.6	4.3
3	4.3	4.2	4.0	3.7
4	4.0	3.9	3.7	3.4
5	3.7	3.6	3.4	3.1
6	3.5	3.4	3.2	3.0

Load Calculations

(1) *Walk-in refrigerator.* Exposed surface = 600 square feet. From Table 18, factor is 4 B.t.u per 24 hrs. per square foot per degree. Temperature difference = 40°. Heat load = 600x4x40 = 96,000 B.t.u. per 24 hrs.

(2) *Beer dispenser.* The peak load on the beer dispenser occurs for only three or four hours a day. The daily load will, therefore, be considerably less than 24 times the hourly load. Consequently, we shall compute the hourly load directly from data given in Table 19. Exposed surface = 64 square feet. The overall factor is .1 B.t.u. per hour per square foot per degree, plus 10 B.t.u. per hour per gallon per degree.

TABLE 19—NON-PRODUCT HEAT GAIN FOR BEER DISPENSING REFRIGERATOR, EXPRESSED IN B.T.U. PER SQUARE FOOT PER DEGREE PER HOUR. ADD 10 B.T.U. PER GALLON PER DEGREE FOR MAXIMUM QUANTITY OF BEER COOLED PER HOUR.

INSULATION	B.T.U.
1	.12
2	.10
3	.08

TABLE 20—OVERALL HEAT GAIN FOR UNDERCOUNTER BAR REFRIGERATOR, EXPRESSED IN B.T.U. PER SQUARE FOOT PER DEGREE PER 24 HOURS.

INSULATION	B.T.U.
2	5.2
3	4.0
4	4.3

(Survey sheet shows 20 gal. per hr.) Temperature difference between inside and outside = 55°. Temperature difference between incoming beer and outgoing beer = 5°. Heat load = 64x.1x55 = 352 plus 10x20x5 = 1000. Total load 1352 B.t.u. per hr.

(3) *Undercounter refrigerator.* Exposed surface = 62 square feet. From Table 20, factor is 5.2 B.t.u. per 24 hrs. per square foot per degree. Temperature difference = 55°. Heat load = 62x5.2x55 = 17,800 B.t.u per 24 hrs.

(4) *Ice cube maker.* Like the beer dispenser, the peak load on the ice cube maker occurs for only three or four hours a day, wherefore, we shall calculate the hourly load directly from Table 21. In order to calculate this load accurately, we must consider separately three factors. The first is the quantity .12 B.t.u. per hr. per square foot per degree for the heat gain through the insulation. The second is one B.t.u. per pound per hour per degree for the heat absorbed in cooling the water to its freezing point. The third is 144 B.t.u per pound per hour for the heat given off by the water in freezing. The survey sheet shows 18 pounds of ice used per hour under peak conditions. Inasmuch as the capacity of the ice cube maker is approximately twice this quantity, it will be sufficient to freeze 18 pounds of ice per hour in order to have a constant supply available. The temperature reduction of the water is 70° — 30° = 40°, while the temperature difference between the inside and outside of the cube maker is 45° — 30° = 15°. Exposed square feet = 14.

TABLE 21—NON-PRODUCT HEAT GAIN FOR ICE CUBE MAKER, EXPRESSED IN B.T.U. PER SQUARE FOOT PER DEGREE PER HOUR. FOR TOTAL LOAD, ADD (1) ONE B.T.U. PER POUND PER HOUR PER DEGREE, AND (2) 144 B.T.U. PER POUND PER HOUR.

INSULATION	B.T.U.
1	.12
2	.10
3	.08

First heat load = 14x.12x15 = 25 B.t.u. per hr.
Second heat load = 18x1x40 = 720
Third heat load = 18x144 = 2600
Total heat load = 3345 B.t.u. per hour.

Restaurant or Cafeteria

The term "restaurant or cafeteria" embraces the complete line of eating places from the corner lunch wagon to the large metropolitan dining halls. Every establishment of this type, however, must have refrigeration to some degree. During the summer months, cooled water is a necessity for large and small places alike. Then, depending upon size, a number of reach-in refrigerators (known as short-order boxes or chefs' refrigerators) and walk-in refrigerators are necessary. We shall consider a representative installation containing one walk-in refrigerator, one reach-in refrigerator, and one water cooler.

Needs Plenty of Space

It is very important to the restaurateur to have sufficient refrigerator space at his disposal to be able to have ample food to provide for the unexpected events which turn up so often in his business. The same space can be used to store surplus food occasioned by unfortunate happenings such as storm, excessive heat, and the like. Adequate storage room, kept at 40°, can turn what may have been a total loss into a substantial profit.

Table 22—Overall Heat Gain for Restaurant Short Order Refrigerator, Expressed in B.t.u. Per Square Foot Per Degree Per 24 Hours.

Insulation	Up to 250 Sq. Ft.	Over 250 Sq. Ft.
2	5.5	5.3
3	4.6	4.4
4	4.4	4.2

Load Calculation

(1) *Short-order box.* Exposed surface = 224 square feet. From Table 22, factor is 4.6 B.t.u. per 24 hrs. per square foot per degree. Temperature difference = 60°. Heat load = 224x4.6x60 = 62,000 B.t.u. per 24 hrs.

(2) *Walk-in refrigerator.* Exposed surface = 312 square feet. From Table 23, factor is 4.2 B.t.u. per 24 hrs. per square foot per degree. Temperature difference = 60°. Heat load = 312x4.2x60 = 79,000 B.t.u. per 24 hrs.

(3) *Water cooler.* As in the case of the beer dispenser, which also involved a peak load, we shall calculate the load directly in B.t.u. per hour. Exposed surface = 16 square feet. From Table 24, factor is .1 B.t.u. per hr. per square foot per degree, plus 8 B.t.u per hr. per gallon per degree. (Survey sheet shows 25 gal. per hr.) Temperature difference between inside and outside = 60°. Temperature difference between incoming water and outgoing water = 25°. Heat load = 16x.1x60 = 96 plus 25x8x25 = 5,000. Total load = 5,100 B.t.u. per hr.

Survey Sheet for Restaurant or Cafeteria

	Short Order Refrigerator	Walk-in Refrigerator	Water Cooler
Size (O. D.)	3x8x8	6x6x10	2x1x2
Insulation	3" cork	3" cork	3" kapock
Maximum outside temperature	100°	100°	100°
Inside temperature	40°	40°	40°
Peak water load			25 gal./hr.
Temperature of incoming water			65°

Table 23—Overall Heat Gain for Restaurant Walk-in Refrigerator, Expressed in B.t.u. Per Square Foot Per Degree Per 24 Hours.

Insulation	Up to 350 Sq. Ft.	Over 350 Sq. Ft.
2	5.0	4.8
3	4.2	4.0
4	3.9	3.7

Table 24—Non-product Heat Load for Restaurant Water Cooler, Expressed in B.t.u. Per Square Foot Per Degree Per Hour. Add 8 B.t.u. Per Degree for Every Gallon of Water to Be Cooled Per Hour.

Insulation	B.t.u.
1	.12
2	.10
3	.08

"Better Than Ever"

The opinion of those attending the Seventh R.S.E.S Convention and 3d All-Industry Show.

More Exhibitors. Larger Attendance. Greater volume of business done. Larger and better floor show at Banquet. Highly interesting educational program. More optimism for coming year. All these contributed to a "better-than-ever" show.

THE largest exhibit of refrigeration products ever gathered under one roof drew a record crowd of approximately 9000 visitors to the 7th Annual R.S.E.S. Convention and 3d All-Industry Refrigeration and Air Conditioning Exhibition, sponsored by the Refrigeration Equipment Manufacturers Association, held January 13-16 at the Stevens Hotel in Chicago.

The convention, the exhibits, and the entire show were ready for the opening promptly at the hour of 10:00 a.m. Monday, January 13. About 4000 people registered on this day, making it the biggest day, from the standpoint of registrations, of the four-day period. One hundred thirty-one exhibitors occupied so much space that they completely filled the large exhibition hall and overflowed on to the mezzanine floor and into the large Boulevard Room on the second floor.

The large number of delegates and members registered with the R.S.E.S. Convention reflected the work done during the past year by the national officers in forming new chapters throughout the country. In view of the difficulties in getting across the border, it was surprising to note so many Canadian delegates and members present. A noticeable increase in the attendance of ladies this year helped so much in making the social side of the Convention a greater success. Credit is given to the National Refrigeration Service Engineers Society Auxiliary for the greater part of this increase; during the past year, the Auxiliary has organized several new chapters, thus interesting a greater number of ladies in the annual meeting.

The R.S.E.S. business and educational meetings were all well attended. They were held in the North Ballroom of the Stevens Hotel between the hours of 10:00 a.m. and 1:00 p.m. each of the three days, Monday, Tuesday, and Wednesday. The educational program was far above average this year from the point of good speakers and useful information provided. In addition to six speakers appearing during the two-day educational session, there were two industrial movies and an innovation in the form of a "Take-it-or-leave-it" program, used as an educational diversion and interspersed between the heavier periods of the three days.

E. A. PLESSKOTT, St. Louis, President

Monday, January 13th

C. L. Hartman, President of the Illinois State Association, acted as chairman and called the meeting to order at 10:30 o'clock on Monday morning, January 13. Mr. Hartman stated that the Illinois State Association, who were hosts to the Convention, extended to the delegates and representatives from the various chapters a hearty welcome. After drawing the attention of the meeting to the program of events to take place in the following days, he announced that the first speaker of the morning would be E. A.

C. BUSCHKOPF
Beaver Dam, Wis.
First Vice-President

A. W. GRUBER, Ironton, Ohio
Second Vice-President

S. A. LEITNER, Kansas City
National Treasurer

Vallee, President of the Refrigeration Equipment Manufacturers Association, and Vice-President and Sales Manager of the Automatic Products Company.

E. A. Vallee Addresses Meeting

"It is a pleasure on behalf of the Refrigeration Equipment Manufacturers Association and their members to bring their friendly greetings to your society and to you as members and guests.

"While I was in Chicago the other day I telephoned my friend and your Secretary, H. T. McDermott, for a suggested subject, and during the conversation, made the remark that what I had to say wouldn't take very long. His immediate reply was, 'thank you.' That, of course, can be taken two ways, but after looking over your program, it isn't hard to understand why he might want to conserve time.

"We of R.E.M.A. are particularly pleased that you have arranged to hold your meetings at the same time as ours and the Jobbers Association, and during the Industry Show, because we want to do everything we can to cooperate with you in your fine educational program; we know it will benefit the entire industry.

"Service is important and every one knows without the fine work you have done, there wouldn't be much success in our industry. Your program is a most interesting one, and one which should send every one home chuck-full of new ideas and enthusiasm.

"I see that you have a fine group of technical discussions planned for this week, and with them a couple of papers on selling. Naturally, having spent my whole life in sales work, I am pleased to note that your Program Committee feels that more push on better salesmanship will result in increased profits for every service engineer.

"All that America is, all that it hopes to be, it owes to salesmen. A salesman discovered it. Christopher Columbus sold a Spanish Queen an idea . . . the idea that the world was round and the riches

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Member, Board of Directors

of the Indies were to the West. He sold a rebellious crew the idea of sailing on. By persevering, he found America.

"A salesman gave it the spark of life. Sir Walter Raleigh went from coffee house to coffee house in London selling the idea of a land of opportunities called Virginia. He fired the imagination of England, and America became more than a place to go . . . it became a place to grow.

"What is selling?

"Everybody in business has something to sell. Every one who has a job is a salesman, and he proves it when he first sells his services, when he sells himself. One definition of salesmanship is the ability to make the buyer want what you are offering, more than he wants the money it costs to buy it.

"As an illustration . . . if you were in a filling station buying gasoline and a courteous attendant said to you, 'Your rear tire is very smooth. We have a special on tires today,' you would probably reply, 'No, I am too busy today.' The result . . . no sale, or even promise of one.

"Suppose that attendant handed you four or five small blocks of tire casings and asked you, 'Which of these do you think would skid the least?' You would pick one. He would say, 'Let's prove it' . . . and take you to a long metal trough with a film of water on it, and by means of a swinging hammer let you drive these rubber blocks along the slippery track.

"After proving which skidded the least, which would you buy?

"The point of this story is that you would buy the one which skidded the least regardless of the amount of rubber, fabric, or cost. You would buy it for what it would accomplish for you . . . in this case . . . safety.

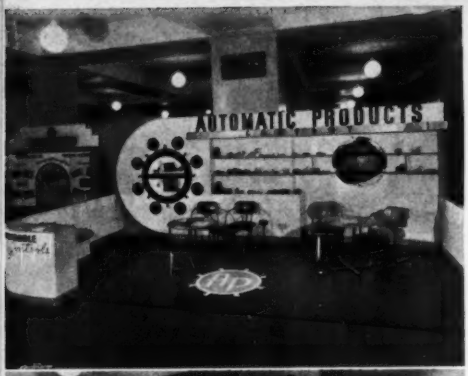
"Applying this principle to your business, Mr. Butcher doesn't buy a fan belt. He buys a means of cooling his compressor, and if you apply salesmanship, the cost is unimportant. He will pay twice as much as he ever paid before, if you have a superior product and can demonstrate that it will last three times as long.

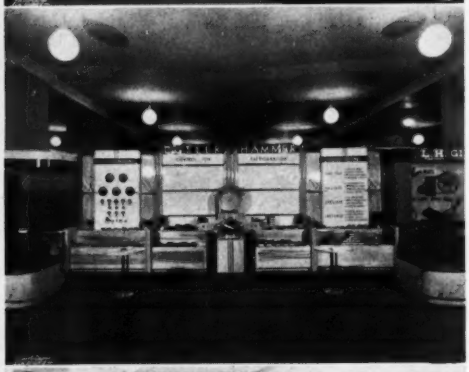
"He will not bicker about the price of your motor

A. D. McGILL, Peoria, Ill.
Member, Board of Directors

W. W. ALLISON, Los Angeles
Member, Board of Directors

JOHN KIRCH, JR., Pittsburgh, Pennsylvania
Member, Board of Directors





if you show sincerely that it is a superior motor and he will have no breakdowns. Again he is interested, not in motors, but in saving spoilage of meat.

"I saw a case of lack of salesmanship in a wholesaler's store the other day. A service engineer came in for a small spring to repair a very old control. He said he had already spent two hours trying to find it without success. He couldn't charge his customer for those two hours because he wasn't working on the job. He could have sold his customer a new control and have done a better service and made a profit himself.

"Think of your business in the terms of the best possible service to your customer on the basis of his cost per year, rather than per job. You are bound to have more customers, and incidentally, more profit yourself.

"Again we thank you for this opportunity of meeting with you, and again, we extend our very best wishes for a successful meeting and a prosperous 1941."

Upon the completion of Mr. Vallee's remarks, Mr. Hartman expressed his appreciation, and the appreciation of the group in general, for the appropriate suggestions Mr. Vallee had made, and then proceeded with the introduction of the National Officers, starting with National President Burns and running on down the line, asking each to come forward to the platform. National Treasurer, S. A. Leitner, was one of those among the missing as he was engaged in defense work. Board of Director members, E. V. Black, Uniontown, Pa. and M. G. Ogden, Atlanta, Ga., were unable to attend because of illness.

Address of President

After the introduction of the officers, Mr. Hartman turned the meeting over to National President G. A. Burns. In his opening address to the meeting, Mr. Burns expressed his gratitude for the cooperation he had received during the past year from his fellow officers and the members in general. He also expressed considerable gratification with the large attendance from all parts of the country present at the meeting.

"A gathering such as this," stated Mr. Burns, "including complete representation of all branches of the industry in which we are vitally interested, is mutually advantageous. It is here that we meet on a common ground for open discussion of our mutual problems. This allows us a broader view of our particular field, and the knowledge gained from this perspective is an invaluable aid to our businesses. We are an educational society, and as such, we are interested in imparting to our members (1)

useful sales hints, (2) how to correctly figure an installation, (3) the correct method of installation, and (4) the correct method of service and maintenance.

"Our service to the community," he continued, "in the maintenance of refrigeration equipment for the conservation of food stuffs, and other applications, makes us just as important and necessary as other vital services in this modern world of ours. We can, I think, best attain this end by proving to our consumer public, the jobber and the manufacturer, our willingness and thoroughness in rendering a type of installation service worthy of our slogan, 'We do it right.'"

Mr. Burns went on to express his personal feeling that the preparedness program now well under way in this country would be the means of increasing the demand for the services of the service engineer. He said that production in all industries is increasing, and because of the additional heavy demand on raw materials, created by the armament program, it is very likely that prices of materials will increase according to the demand. This, in turn, will make it more desirable to keep the old equipment in operating condition for a greater length of time, thus increasing the demand for refrigeration service.

Continuing with the business of the meeting, Mr. Burns then called upon H. T. McDermott, National Secretary, for his annual report, which in part follows:

REPORT OF H. T. McDERMOTT, SECRETARY

For the Fiscal Year Ending June 30, 1941

In reporting to you on the state of your Association at this, our Seventh Annual Convention, it is my hope that this report, in some measure, will indicate the accomplishments of your Association since our last annual meeting, and provide some constructive suggestions to insure the further success and increased activity of your Association. In this day of streamlined thinking and action, and with the growing importance of your Association as the representative of one of the important divisions of the refrigeration industry, it is well that the administrative set-up of the Association is designed to permit it to act promptly on matters of policy and effectively serve its membership in carrying out the precepts for which the Association was founded. No one can deny that conditions of today forecast unpredictable changes, and that as far as is humanly possible, your Association should be alive to what these trends may portend as they affect our interests and future business progress.

As we learn of the tremendous industrial expansion which the Government has undertaken in its defense program, we realize that refrigeration will play no small part in this expansion program, and from reports received thus far, the application and use of refrigeration equipment during the current year will show a tremendous increase, and consequently, will reflect not only in the matter of sales, but also, and of most importance to us, in the requirement of man power for the installation, servicing, and maintenance of this equipment.

In a rapidly moving and expanding business of the nature in which we are engaged, it is obvious from our experience that we can anticipate frequent industry changes. One of the influences contributing to the growth of the businesses of many of our members is that, with the passing of each year, their identity in the communities in which they are operating is becoming better known, with the result that they are being accorded the distinction of being the "refrigeration specialists" in their respective territories. This has logically brought them in contact with the possibility of sales, which many have entered into, and has provided them with a more profitable return through the modernization of existing equipment and the opportunity to make additional profits on new equipment.

Advertising and Records

Here again, I do want to point out that our advertising committee, in a subsequent report, will display some interesting information as to how the Society can serve its members by providing the material with which to circularize their customers.

We must realize, whether we operate our own businesses or are employed by a contractor, distributor, dealer, or national manufacturer, that part of our every-day work is to recognize the essentials of good business practice. The Society has always encouraged ethical standards of practice and a desire to see that the business is stabilized. The keeping of accurate records is most essential, and the Society has endeavored to encourage the maintenance of proper records by providing a simple form, which was designed primarily to provide an actual cost record of doing business and the net profit available after all costs had been reconciled. I believe that we should constantly continue this work through our standing committee, which should make periodical reports to our members. The keeping of accurate records is going to be more important each year, as our Government will become more interested in such records.

In this connection, a work that we started several years ago, known as the Unit Labor Survey, should be carried on and some effort made to secure some response to this report, which, in turn, can be published and turned over to our membership.

Officer Activities

In my association with the officers which you chose for the current year, I could not help being impressed by their sincere desire to serve the membership interests, and by the unity of thought and action which was manifest in their conduct of the administrative affairs. We recognize that whatever constructive work we accomplish not only benefits our individual group of the refrigeration industry, but likewise contributes to the industry in general; and conversely, what constructive work is accomplished in other branches of the refrigeration business ultimately reflects to our advantage.

As your Society grows in years, its background of experience in meeting the problems of former years, which at that time might have seemed insurmountable, enables it now to handle those problems in the routine business of the day, and more important situations which we must expect to meet as the Association increases its influence are being met in the light of this experience. Your officers have jealously guarded the foundation upon which this Association was built, and in deciding questions of policy, they have considered not only the immediate benefits, but have also endeavored to make their decision upon the basis of a long range vision as to the effects of that decision in future years.

7th Convention

This 7th Convention meets in conjunction with the All-Industry Refrigeration and Air Conditioning Exhibition at the invitation of the Refrigeration Equipment Manufacturers Association. The decision for the selection of the time and place was made after several conferences of your own contact committee with that of the R.E.M.A.; and your board of directors, acting upon the recommendation of the result of these conferences, made the decision to again hold the convention in combination with this large exhibition of manufacturers' equip-

ment. Those of us who have witnessed the growth of this exhibition from a very insignificant beginning some eight years ago in Chicago, can feel justly proud that the Society was instrumental in recognizing the advantage of bringing seller and buyer together in a manufacturers' exhibit of this character. As you know, the arrangement providing for our meeting in conjunction with the All-Industry Exhibition assures the Association of a financial return, which enables us to add to our educational fund and increase the scope of our activities for the benefit of our membership. As usual, the Society has provided as much time as possible from a most interesting educational program for a careful inspection of the exhibits, and those of us who have been to previous exhibitions will have the opportunity of observing the growth in the exhibition this year, which requires additional space on the mezzanine floor.

Territorial Supervision

Your Association has, as usual, had a most active year, and following out the recommendations that were made several years ago, the members of your board of directors have acted as territorial representatives of the Society, the principal purpose of this arrangement being to provide a closer working contact between our individual chapters and the national officers and headquarters. There is still considerable work to be done in this connection, and the full benefits of this arrangement can only be measured by the way our chapters will consider these territorial representatives as an immediate point of contact with the National Organization on all problems which may confront them.

I made the point last year that many of the plans we had in mind were rather ambitious and awaited successful completion. I can again state this as a fact, that while much of the work we had anticipated has been successfully concluded, nevertheless, the increased activities and suggestions from chapters and members clearly indicate a greatly broadened scope of activity entailing considerably more work. This is principally true of some of the work of the various committees, and I presume that from this convention may emanate other suggestions requiring still further activity on the part of the officers and the committees to be appointed.

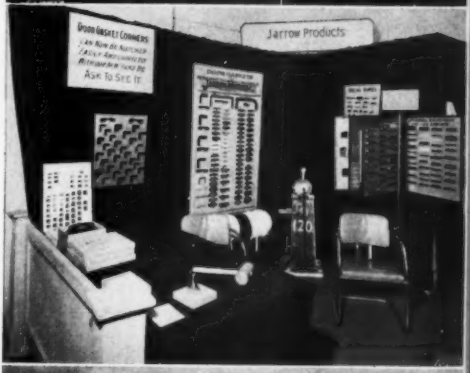
Chapter Activities

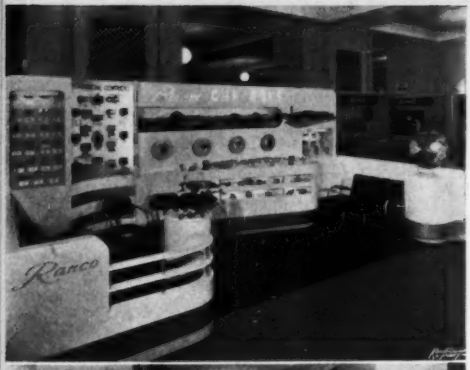
Because the majority of our membership is identified with the National Society through local chapters, many of our activities have been carried on through this source, and it is my recommendation that our efforts in this direction be expanded next year. Since our last convention I am pleased to report that our chapters are falling in line with the suggestions made by the National Office in striving for a selective, rather than a quantitative, membership. Like any similar organization, some of our chapters find it difficult at times to secure a representative attendance at their meetings. The solution of this problem will be best brought about by the activities and initiative of the individual officers of the chapter, and in this connection, I can see that the National Society must help in providing a constant flow of ideas for effective meetings.

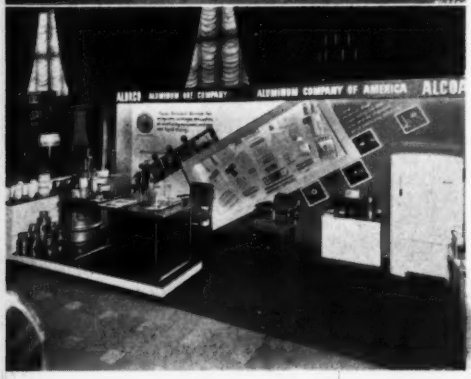
Last year, the National Organization, because of the number of secretaries, or representatives, of the individual chapters who attended the convention, had a round table discussion at a Secretaries' Luncheon, from which considerable benefit was derived. The results of this conference were published in bulletin form and sent to each secretary, providing much information on successful programs which had been held in other chapters, and which generally could be applied to all of our local groups. Other discussions at this luncheon consisted of devising ways and means for the most effective administration of the local chapter in cooperation with the other chapter officers. This meeting will be repeated this year.

Chapter Bulletins

During the year, your Secretary's office has frequently mailed bulletins designed to pass on suggestions and information for meetings, and particularly to give information to all of our chapters on out-







standing programs that may have been conducted by some of our chapters. From some of the reports I have received, these bulletins have been put to good use in providing suggestions, and from others it has been found that these suggestions have not yet been considered. The value of the bulletins will be determined by the practical use to which they are put, and I have recommended to our chapters that the board of directors and officers of our local chapters meet frequently with the chairmen of their respective committees, particularly with the educational chairmen, to plan their programs in advance. I have found that the value of the program is determined by the effectiveness of its presentation, and that usually a fill-in program which is arranged just a few days prior to the meeting will be detrimental and will not encourage attendance at subsequent meetings.

In this connection, we have recently issued our second Speakers' Bulletin, listing the prominent manufacturers who have indicated their interest in our Society and their willingness to provide educational talks when their representatives are in the territory of any particular chapter.

Educational Work

In furtherance of our educational program, I'm sure that our members will be interested in an arrangement which your contact committee proposed to the Refrigeration Manufacturers Association: That our relation with this Association should not confine itself to our annual discussions regarding convention, but should be designed to provide some method whereby this contact may be operative throughout the entire year on all problems of mutual interest.

We have proposed that some arrangement be made whereby each chairman of the educational committee of our local chapters be furnished with what might be termed "an educational guide," this to consist of a series of educational bulletins, each a complete and composite lecture on the various classifications of equipment manufactured by the members of their Association, which, in turn, would be bound in book form and every chapter furnished with a copy thereof. In this manner, our local chairmen could conduct the entire educational program without being dependent upon the presence of the manufacturer's representative at the time of the chapter meeting.

This project may expand to the extent of providing, in conjunction with these educational bulletins, suitable slides or other material that could be used to supplement the actual presentation of the educational paper.

Traveling Units

The General Electric unit which the Society has provided for the educational program in our various chapters is still traveling throughout the country, and we had hoped this year to provide one or more traveling units of a similar character. These units have not yet been made available, but I would recommend to your National Educational Committee the desirability of considering this, or other similar practical demonstrations, part of their program.

Educational Bulletins

Some of the educational bulletins issued as part of the lecture course this year have covered such applications as the following: Bakery refrigeration and air conditioning, milk-cooling, water-cooling for photo and X-ray developing, ice cream freezing, hardening and storage, piping design, problems in frozen food and locker plants, and a bulletin on safety.

In addition to these bulletins the National Educational Committee has released to the chairmen of our local educational committees several interesting programs designed along the lines of a quiz contest, which have been favorably received, and requests for more programs of this character have been forthcoming.

Year Book

It was expected that the annual Year Book of the Society would be available for this convention, but we can report at this time that this book is now in work and is expected to be published within

the very near future. I would like to impress upon the representatives of our chapters that the book will contain a complete list of the membership of the Society. After the publication of the last issue several of the members whose annual dues were not promptly paid, and who, therefore, were not listed in the book, wrote the National Office inquiring as to why their names had been omitted. It is our plan, as in the past, to increase the distribution of this directory to manufacturers and others so that they may communicate directly with our members when they may require installation and service work.

Question Book

It is also expected that additional Question-and-Answer Books, of which two have already been issued, will be forthcoming during the coming year and sent to each member.

Advertising Committee

One of the active committees this year has been our advertising committee, and your Secretary is somewhat familiar with the work they have done. The preliminary work was submitted to your Board of Directors at its meeting last night, and favorable action was taken upon carrying out the program which has been planned. A report of the work of this committee, and some of the material which they have considered, will be presented by the committee chairman. I recommend that the work started by this committee be finished at the earliest possible date.

Codes and Licensing Regulations

Your National Headquarters, during the past year, has received a number of inquiries from our chapters as to municipal codes now in effect regulating the installation of refrigerating equipment. Apparently, there has been some agitation for such regulation, and most of these requests have been for specimen copies of codes now existent. Your National Office has in a limited way endeavored to comply with these requests. Some of these codes are good and others not so desirable. Additional inquiries have been made as to whether or not the Association has yet, based somewhat on the success of the operation of these codes, compiled any suggested model which might serve as a guide for committees charged with the responsibility of reporting to their respective chapters. We know, of course, that many existing codes governing this subject have been on the law books for some time and are now obsolete and require revision.

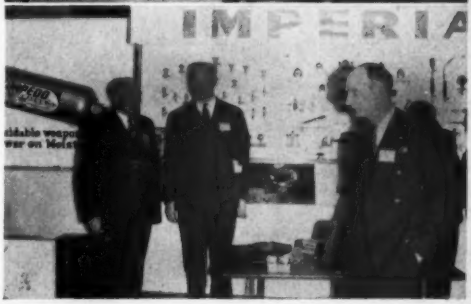
I believe this is one of the constructive works that the National Association can do, and I would suggest that the incoming officers consider the advisability of having an active committee appointed to secure a copy of all of the codes now in effect, to study them, and if possible, to select the best material in these codes, to be published in bibliography form with any recommendations they wish to make, and to be distributed to our local chapters; this would also apply to licensing regulations.

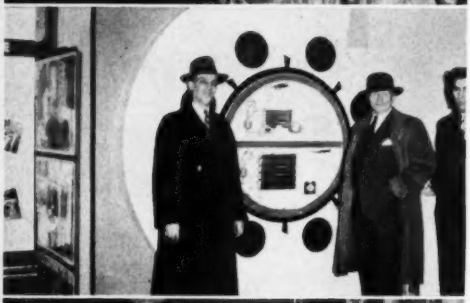
Members-at-Large

In this report we have considered at some length the desire of the National Organization to provide all of the assistance possible to our local chapters. We have not been unmindful that a growing percentage of our membership constitutes those members who are not conveniently located to one of our established chapters, and consequently, do not secure the benefits of chapter relationship, but do receive the Society advantages by their participation as members-at-large. Naturally, with the increase in the activities of the members of the local chapters, we hope to extend a proportionate increase in services to these members.

Truly, our Association has assumed international proportions, and each year sees a greater number of men, interested in our Association, making application from all points of the globe. Recently we have had considerable correspondence relative to the formation of a chapter in Hawaii.

The National Educational and Examining Board has not as yet provided facilities whereby our members-at-large may participate in the examination for Certificate Membership. This examination, as many





of our chapter members know, is more or less an oral test, and we have not as yet been able to devise a method whereby an examination comparable to that taken in the local chapters may be conducted for our members-at-large.

Employment

The Society, from time to time, is and will be called upon to act as a placement bureau for those members who may be seeking a change of employment. Some consideration has been given to the feasibility of providing ways and means to act upon this matter. I believe this can be made one of the essential activities of your Association, and, since provision has been made in our constitution and by-laws for the appointment of such a standing committee, it would seem advisable that such a committee be appointed and charged with the responsibility of working out the details.

Membership

Occasionally it is advisable, whether in business or in association work, to take stock of ourselves and to ascertain in what direction we are traveling. This year, the Society has directed its efforts to strengthening its existing chapters, realizing that no advantage can accrue to our membership-at-large unless each of our chapters is successful in its own operation, thereby contributing to the advancement of the Society in general. Some success in this effort can certainly be reported, and several of our chapters have interested themselves in the establishment of other chapters in their respective states. During the coming year, from the reports which your National Office has received, I confidently believe that the preliminary work which they have done will bear fruit.

The turnover in our membership still continues, but with each succeeding year this proportion is being reduced, indicating that the mortality of the service and installation businesses is decreasing and that those who have established themselves on a business basis are becoming a more permanent organization. Of our old members, who, for various reasons during the past several years, discontinued their membership, many are making re-application, and it is encouraging to see this trend. Even under these circumstances, I am, of course, pleased to report that our membership has shown some increase.

The number of *inactive* chapters this year has been materially reduced, and at the present time we have a total of 62 active chapters extending from coast to coast. We welcome into the National Society the new chapters which have been formed since our last convention, and I am glad that several of these chapters have their representatives at this meeting, acting for them officially at their first annual Society Convention. These new chapters and the dates of their formation are as follows:

New Chapters Formed 1940

	Petition Rec'd.	Granted	Presented
Lone Star Chapter. Dallas, Texas	3/29/40	4/26/40	6/17/40
Oil Capital Chapter Tulsa, Oklahoma	3/28/40	4/15/40	6/19/40
Trenton Chapter... Trenton, New Jersey	3/11/40	3/27/40	4/15/40
Virginia Chapter... Richmond, Virginia	11/11/40	2/2/41	Not yet presented

There are two other chapters located at Fort Worth, Texas, and Flint, Michigan, that are now in formation.

At this meeting I have received a report of the reestablishment of our chapter in New York City. Mr. E. E. Condon, Secretary of the New York State Association, has reported on the election of officers for this chapter.

Finances

I believe that every one of us takes a certain pride in his affiliation with an organization which he knows is a going concern from a financial standpoint. Each year our reports have indicated the careful manner in which your officers have expended the money of the Association, seeing that these

expenditures were judiciously made and the major part directed into channels for the educational advancement of our members. Your Society is a non-profit educational association, and it is for the interest of its membership that its funds are disbursed. Your Association has considered it good business to maintain a reserve in the event of any unforeseen contingency, and your national officers, since the inception of the Association, have made every effort to abide by such provisions. With this report I am attaching a complete financial statement covering the income and disbursements for the fiscal year ending June 30, 1940, which will be subject to the approval of your auditing committee.

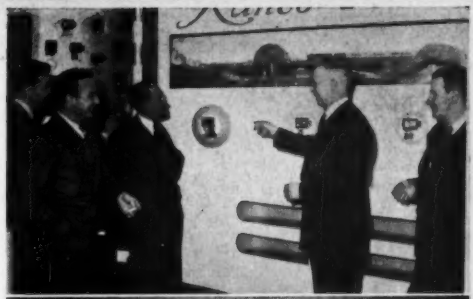
Due to Mr. Leitner's absence, the treasurer's report was not read in the meeting, but was turned over to the Auditing Committee for consideration along with the financial report given by Mr. McDermott.

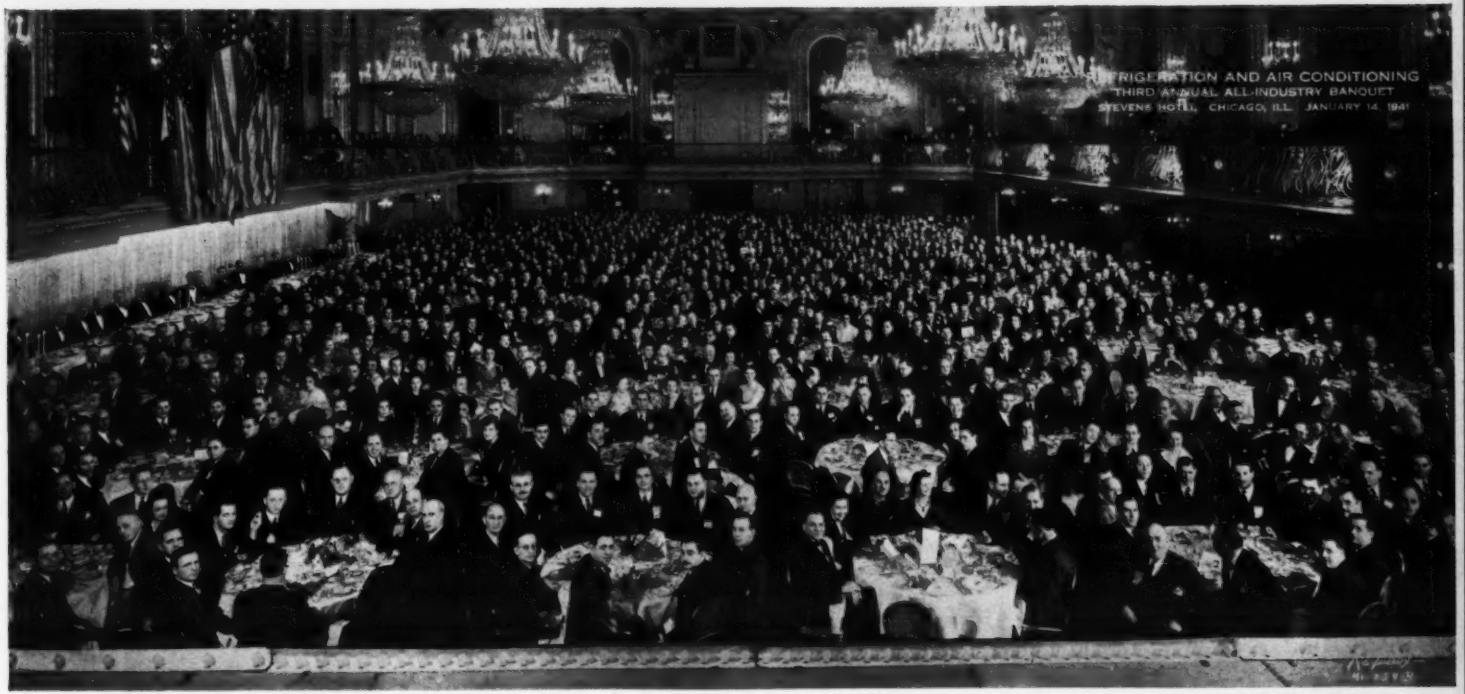
Committee reports were the next order of business, and the first one heard from was the Membership Committee, headed by Claude Brunton, Huntington, West Va. Willis Stafford, Chairman of the Publicity Committee, reported next on his Committee's activities, outlining at some length the work that had been done thus far on service labels, which are now available to members of the Society, folders, mailing pieces, and envelope stuffers, which are well on the way to completion, and various other advertising media which are being undertaken by the National Society. Mr. Stafford stated that the service labels have been so well accepted that the second 25,000 are well on the way to being sold. He outlined the general layout of the mailing pieces being prepared by the Society and mentioned ways in which they could be used. His report was very complete and detailed, ending with the extension of his thanks to the members of his Committee who had helped so much in the work they had accomplished to date.

A New World Through Chemistry

Next on the program was a sound, color film entitled "A New World Through Chemistry," which was presented through the courtesy of the R & H Chemicals Department of the E. I. DuPont de Nemours Company. This film showed in brief the method of making Neoprene and Nylon, together with the many articles manufactured from these products. The film was greatly enjoyed by those who saw it, and it was felt that those men engaged in refrigeration servicing knew a great deal more about the product, Neoprene, which has improved compressor seals so much in the last few years.

Mr. J. F. Nickerson, publisher of ICE AND REFRIGERATION and The REFRIGERATION SERV-





THIRD ANNUAL ALL-INDUSTRY BANQUET FILLS TO CAPACITY THE GRAND BALLROOM OF STEVENS HOTEL AND OVERFLOWS INTO ASSEMBLY ROOM.

More than 1,300 people attended the 3rd All-Industry banquet, overtaxing the capacity of the Grand Ballroom in the Stevens Hotel to the extent that a number of tables had to be set in the assembly room adjoining the Ballroom. The festivities started with a full-course turkey dinner, during which the parade of the ice cream provided a colorful novelty. The ice cream, served as dessert, was molded into the form of refrigerators. When the parade started, lights in the Ballroom were turned off, the band struck up a lively march, and the waiters, about 130 in all, paraded into the Ballroom carrying lighted platters of ice cream. The floor show this year consisted of twelve acts, chosen from the most popular shows and night spots in Chicago. They represented the cream of the available acts, and far surpassed the shows of other years. Dancing followed the floor show.

ICE ENGINEER, and affectionately known as "Father of the Refrigeration Service Engineers Society," was introduced at this time.

Convention Committees

The next order of business was the appointment of convention committees, the first of which was the Nominating Committee, consisting of Forrest Poole, Portsmouth, Ohio; James Klein, Springfield, Ill.; Ray Moss, Oshkosh, Wis.; J. R. McKee, Toronto, Canada; and E. C. Fix, St. Louis, Mo. This committee was instructed to make selections for the officers to be recommended for election and return its report by the following day at noon. The next committee appointed was the Auditing Committee, consisting of W. W. Farr, Cleveland; Clem Doyle, Omaha, Neb.; E. A. Summers, Baton Rouge, La. On the Resolutions Committee, Mr. Burns appointed John Bush, Buffalo, N. Y.; Glen Dresback, Bloomington, Ill.; W. H. Cline, Dallas, Tex.; Roy Keith, Youngstown, Ohio; E. J. Storm, St. Joseph, Missouri.

Announcement was made that it was the privilege of any member to go before the Resolutions or Nominating Committee during their meetings and make suggestions or recommendations for any office. At this point, Mr. Stafford asked that he be permitted to say a few words to the group, and it was at this time that he expressed his regret at being compelled to resign from active work in the National Organization, his reasons were that he had recently secured an appointment from one of the large manufacturing concerns in the refrigeration industry, and that his time would be taken up to the extent of not being able to do justice to any work assigned to him by the Society. His resignation was accepted by President Burns with regret, but with every good wish for Mr. Stafford's future success.

Rotary Seal Provides Door Prizes

It was announced that, through the generosity of Rotary Seal Company, Chicago, Illinois, two attendance prizes for each of the three days of the Society Convention had been donated. Following this explanation, the drawing for the first day's prizes was made, with the result that Frank R. Bader, New Jersey, was the first winner, and E. Ellsworth Swank, Wilkes-Barre, Pennsylvania, was the second winner. The prizes were neat, folding, traveling, alarm clocks.

Secretaries' Luncheon Meeting

At 2:00 p.m. in the afternoon of January 13, a Secretaries' Luncheon was called to order by Chairman H. T. McDermott. The purpose of this meeting was to discuss the mutual problems of the secretaries of all the chapters, and to endeavor to secure as many suggestions as possible to lighten the load of the individual secretaries and improve the services offered by the National Secretary's office. The educational programs, management of the chapter, and running of the meetings also came in for a share of the suggestions. There were fifty-one in attendance at this meeting, and nearly every chapter in the organization was represented.

The discussion that took place after the luncheon was over, was lively and productive of much useful information to those local secretaries who have a large portion of the responsibility placed on their shoulders in maintaining the interest of chapter members.

Tuesday Morning, January 14th

The Tuesday session came to order at 9:45 a.m. with President Burns presiding. After bringing the meeting to order, Mr. Burns announced that the first business on the program was "Information Please." The members present were asked to present any problems they had for discussion, and the answers would be obtained if possible from the audience. H. D. Busby was asked by Mr. Burns to conduct this part of the program, and Mr. Busby, in turn, appointed a "brain trust" to assist him in answering questions received from the floor. Those serving on the "brain trust" were Paul Reed, Service Manager of Servel, Inc.; Art Hoesel, Flow Controls, Inc.; and R. T. Thompson, Kinetic Chemicals Company. It was a little difficult to get this period started because of the apparent inability of those present to think of any good questions. However, after the first one had broken the ice, from there on, the discussion became extremely lively, and it was necessary to call a halt in order that the rest of the meeting might not be too much behind schedule.

Absorption Type Air Conditioner

Mr. Burns then introduced the first speaker of the morning, Glen F. Zellhoefer, who presented his paper entitled, "The Model 3040 Air-O-Matic Absorption Sys-

other years. Dancing followed the floor show.

tem." Mr. Zellhoefer's paper described a new absorption type system designed for use in the air conditioning field. The system is designed to burn either gas or oil, and provides a completely automatic self-contained central unit for air conditioning plants in the home or place of business. While this piece of equipment is of such a nature that the average independent service organization may not come in contact with it for quite a period of time, nevertheless, it was very interesting to those in attendance, in that it opened up a vast new field of study for the man who is interested in air conditioning.

Selling Your Services

The next speaker of the morning was Charles Logan, Superior Valve and Fittings Company, Pittsburgh, Pennsylvania. Mr. Logan's talk "Selling Your Services" was both humorous in the manner of presentation and very instructive along sales lines. The many complimentary remarks overheard in the audience after his delivery indicated that Mr. Logan had indeed put over some worth-while points, and that his paper was immensely enjoyed by every one there. The paper is published in full in another section of this issue.

C. M. Brown, Tecumseh Products Company, Tecumseh, Michigan, was the next on the program, with the showing of a silent film portraying the precision manufacture of compressors. Mr. Brown gave a running comment on the film as the processes of manufacture were unfolded on the screen. Besides being extremely interesting to the general group, it proved to them that a compressor can be completely manufactured in almost as short a time as the service man can overhaul an old one. Some of the interesting parts of the pictures were the precision methods used in the manufacture of the compressor, and the strict inspection given each part before being passed for assembly in the completed compressor. The picture is one made in recent months, and therefore, showed the most modern methods of manufacture and the most rapid assembly processes in use today.

Properties and Characteristics of Refrigerants

Mr. Burns then called upon R. T. Thompson, Kinetic Chemicals Company, to present his paper and to give a demonstration on the characteristics of Freon refrigerants. Mr. Thompson's paper was quite technical and of considerable length; therefore, he was unable in the time allotted to him to dwell very much on the paper itself. However, his demonstration proved of exceptional interest and provided his audience with a great deal of information. An indication of how well Mr. Thompson's paper and demonstration were received was the large number of questions asked him from the floor. These questions continued for such a length of time that eventually President Burns had to end them because the time schedule was again running behind. This paper will be distributed to each member of the Society and will later be reproduced in the columns of this journal.

Report of Nominating Committee

The report of the Nominating Committee, was presented by Chairman Forrest Poole. Mr. Poole's report was read and the Committee's selection of officers was posted on the blackboard, and then the usual procedure of electing the new officers got under way. Those proposed by the Nominating Committee consisted of the following: *President,* E. A. Plesskott, St. Louis, Mo.; *Vice-President,* C. Buschkopf, Beaver Dam, Wisc.; *Second Vice-President,* A. W. Gruber, Ironton, Ohio; *Secretary,* H. T. McDermott, Chicago, Ill.; *Treasurer,* S. A. Leitner, Kansas City, Mo.; *Sergeant-at-Arms,* L. J. Boucher, Montreal, Quebec; *Educational Chairman,* A. M. Fenwick, Cleveland, Ohio; *Board of Directors,* J. B. Shepherd, Winnipeg, Manitoba; S. B. Garland, Worcester, Mass.; A. D. McGill, Peoria, Ill.; J. L. Driskell, Burley, Idaho; W. W. Allison, Los Angeles, Calif.; E. A. Summers, Baton Rouge, La.; John Kirch, Jr., Pittsburgh, Pa. Before voting, additional nominations from the floor were requested, taking each office in the order of its importance, but in each case, no further nominations were made and it was moved and seconded that the nominations be closed. Thus, the Secretary was instructed to cast one ballot for the entire group, unanimously electing all the officers selected by the Nominating Committee for the coming year.

Mr. Burns then turned over the gavel to President-Elect E. A. Plesskott, who accepted it and expressed his appreciation to the members for the confidence placed in him. Each of the new officers elected was called forward to be introduced to the meeting.

The business of the day being completed, the drawing for the attendance prizes resulted in W. H. Barnes, Pittsburgh, winning the first drawing, and A. H. Ross, Butler, Pa., the second.

Wednesday, January 15th

The meeting got under way at 9:55 a.m. with E. A. Plesskott, newly-elected President, presiding. It was immediately turned over to H. D. Busby, who conducted the "Information Please" period. On the "brain trust" for the morning, R. T. Thompson Kinetic Chemicals, Inc., A. B. Schellenberg, Alco Valve Company, and Paul Reed, Servel, Inc. were called on and accepted the invitation to help answer the questions. Everyone seemed to be primed with something of interest to bring up, and a lively discussion on questions varying over a wide number of subjects filled every minute allotted to this part of the program.

Problems of Refrigerant Distribution Through Multi-Circuit Coils

After the meeting had been turned back to President Plesskott, Mr. Schellenberg, Alco Valve Company, St. Louis, was introduced as the first speaker of the morning, and spoke on "Problems of Refrigerant Distribution Through Multi-Circuit Coils." The talk was illustrated through the use of stereopticon slides and the entire presentation was most instructive. Copies of this paper have been prepared so that all members not at the meeting will receive a copy through the mail at a future date.

"Take-It-or-Leave-It"

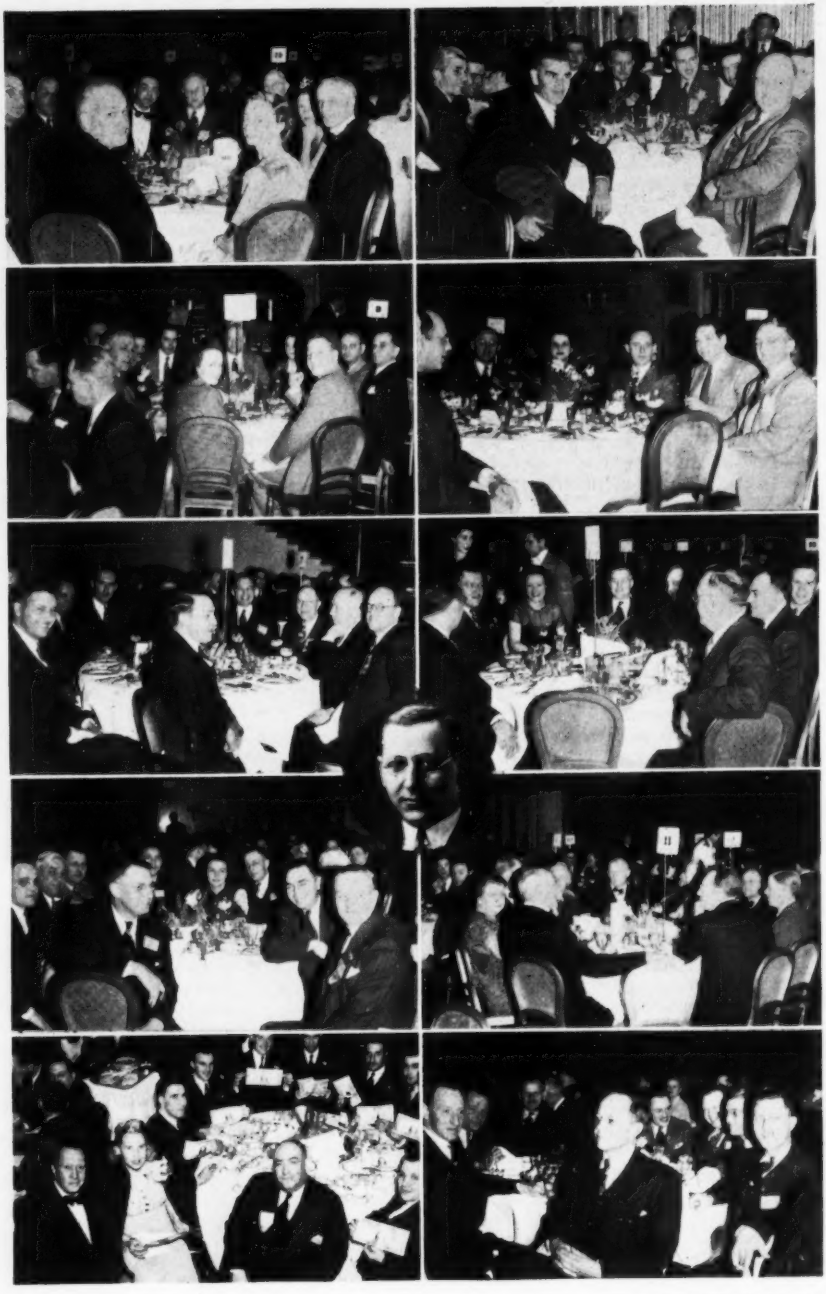
The next feature of the educational program was one entirely new to the programs of the Annual Conventions. Its title was "Take-It-or-Leave-It," a quiz contest patterned along the line of the popular radio program of the same name. Provisions had been made for a total of twelve entries, and each contestant was asked a total of five questions. The amounts paid for correct answers on the questions doubled with each succeeding question until a maximum of $8 was reached. The national society arranged this program and awarded the cash prizes. L. C. McKesson, Ansul Chemical Company, acted as the Master of Ceremonies, and introduced into the program considerable humor and fun, which might otherwise have been lacking had a less talented Master of Ceremonies been in charge. About seven of those who entered the contest walked away with an additional $8 in their pockets to spend on a good time around the Convention. Proof of how well this program was enjoyed was evident in the fact that a motion was made by the meeting, that the program in its entirety be printed in sufficient quantities to provide every chapter a copy for future use. In appointing those who would officiate on the program, Mr. McKesson asked Paul Reed, Forrest Poole, John Bush, and Willis Stafford to act as the judges. Claude Brunton was appointed timekeeper, and H. D. Busby cashier. The contestants volunteering to try for the money were George Meester, Milton M. Katz, H. R. Brewster, C. Edwin Belote, Berry Allen, Ed Vadakin, H. B. Adams, William Anglin, Robert J. Creamer, William A. Lott, Dan L. Benash and George B. Gardner.

"Why Fins"

Mr. Plesskott then introduced Israel Kramer of Kramer-Trenton Company, Trenton, New Jersey, as the next speaker. Mr. Kramer spoke extemporaneously on the subject of "Why Fins?" He was aided in his talk by stereopticon slides showing tables around which he based his discussion. In addition to tracing the history and development of the fin type of coil, he went into discussion of the relationship between the fin and the tube in the coil, and how much work was done by each. His theory in connection with fins on the coil was somewhat new and brought out a new line of thought on how the fin aids in the absorption of heat. The subject was technical, but through the aid of the slides used, Mr. Kramer put it over in such a manner that everyone understood the subject very thoroughly.

Service as a Business

"Service as a Business" was the title of the next paper, presented by C. B. Herbert, Herbert Refrigeration Company, Waterloo, Iowa. In his paper Mr. Herbert offered his views on conducting a service business, and provided many useful hints on the difficult job of securing new customers and dealing with old ones. Mr. Herbert's paper was of an extremely practical nature and dealt with just the kind of information the average service company is continually looking for. Mr. Herbert has had approximately fourteen years' experience in the service department of Frigi-



Views of the R.S.E.S. Rodeo Party, held in the North Ballroom of the Stevens Hotel, January 15. On the opposite page are views of a few of the tables at the annual banquet with Irving Alter of the Harry Alter Company, Chicago, shown in the inset. All the pictures on these two pages and on pages 25, 26, and 27 were taken by Irving, with the exception of one at the top of page 26 and one at the left bottom of the opposite page, which were taken by Horace Laney, Buffalo, N. Y.

daire Corporation, and more recently, has operated his own business, becoming a Frigidaire agent in Waterloo, Iowa. Copies of his paper have also been reproduced and will be sent at a later date to all members of the Society, in addition to being published in THE REFRIGERATION SERVICE ENGINEER.

This concluded the educational program for the Convention, and President Plesskott proceeding with the unfinished business requested the report of the resolutions committee. John Bush, Chairman, read the resolutions proposed by his committee.

REPORT OF THE RESOLUTIONS COMMITTEE

WHEREAS the officers of the Association have given so generously of their time in the interests of the Society, and

WHEREAS the officers and members of the Ladies Auxiliary have provided the visiting ladies with an opportunity for entertainment during their stay at the convention, and

WHEREAS Mr. Herman Goldberg has given so generously of his time and equipment to provide us with a picture record of this convention;

Therefore, be it resolved that we give these members a rising vote of thanks for their work.

It has also been recommended that the following resolutions be presented:

WHEREAS the speakers who have appeared on the educational program of this convention have contributed their time so that we might gain knowledge to further our every-day endeavors,

Therefore, be it resolved that the Secretary write them thanking them for their untiring efforts in imparting this knowledge to us, and

WHEREAS we recommend that the committee on cost records and unit labor survey continue their work, and

WHEREAS the work started by the advertising committee should be carried through to early completion, and

WHEREAS a committee should be appointed to follow the suggestions made to secure a copy of codes and licensing requirements from as many cities as possible, and to select the best information in these codes and publish them in bulletin form for the guidance of our chapters who may want to use such information, and

WHEREAS a committee should be appointed to devise ways and means by which the Society may efficiently handle the matter of men desiring to change their employment, and

WHEREAS articles should be included in the official organ, THE REFRIGERATION SERVICE ENGINEER, on heating service data because of the interest of so many members, and

WHEREAS we go on record that we do not approve of manufacturers or jobbers selling direct to the consumer and that local chapters or members-at-large should advise the National Society of such practices, and that the National Society should write the party informing him that such practice is the knowledge of the National Society, and showing him the effect it may have on our business, and

WHEREAS it is recommended that the National Secretary notify all chapters of the formation of new chapters so that our present chapters may write the new chapters, congratulating them on their formation, and

WHEREAS we recommend that the National Society appoint a reception committee to inform and greet members and guests of the Society attending the National Conventions and see that they are properly entertained;

Therefore, be it resolved that these resolutions be considered for adoption by the National Board of Directors and such action taken as may be advisable to make them effective at the earliest date.

C. J. Doyle, a member of the Auditing Committee, read the report, which stated that the books of the National Society had been found in order and in complete agreement with the balance shown by the National Secretary in his report. The general condition of the books and the manner in which they had been kept were highly commended by the Committee, and a recommendation made: That the National Society secure a record of the transactions of each local chapter with the national association, at the end of each fiscal year; such record to be kept on file with the National Society and with the chapter.

The convention unanimously voted to change the Constitution and By-Laws so that wherever the word national was used, international would be substituted, thereby embracing in its scope all the members of the Society, including those residing outside the United States.

Before the meeting adjourned, the drawing for the attendance prizes was made, I. H. Hanson and E. J. Merenda winning the two prizes.

ALL-INDUSTRY EXHIBITION IN CHICAGO FOR 1942

The Board of Directors of the Refrigeration Equipment Manufacturers Association have announced that the 4th annual All-Industry Refrigeration and Air Conditioning Exhibit will be held the week of January 12th, 1942, in Chicago.

JOBBER ASSOCIATION MEETS DURING ALL-INDUSTRY EXHIBITION

SEVERAL meetings of the National Refrigeration Supply Jobbers Association were held during the All-Industry Exhibition, and among the various reports presented was one indicating that the Association had added to its membership and was making plans to increase the scope of its activities during the coming year.

President Frank Langsenkamp of Indianapolis, in his address to the Association, indicated that one of the most important activities planned for 1941 will be the Cost Analysis Survey. It is hoped that each member of the Association will participate in this endeavor in order to arrive at some conclusive information.

Other discussions included standardized catalogs and unit ratings, trade practices, uniform discounts, interchange of credit information and salesmen's manuals.

Third Annual Meeting of the R.S.E.S. Auxiliary

THE members of the R.S.E.S. Auxiliary held their annual meeting at times coinciding with the meetings of the Seventh Annual R.S.E.S. Convention. The North Assembly Room of the Stevens Hotel was reserved for their use during this time, and a very fine representation of the ladies from the various chapters was present.

The first meeting, called on Monday, January 13, at 10:00 a.m., was brought to order by Mrs. DeWilde of Kansas City, Missouri. Mrs. DeWilde made a few brief introductory remarks to the opening of the convention, then introduced the National President, Mrs. Brunton of Huntington, West Virginia.

After greeting the members who were present and expressing her gratification at such a fine showing, Mrs. Brunton introduced the other National Officers who had served during the past year.

MRS. C. J. DOYLE, Omaha, Nebr.
President

The first order of business on their program was the reports of the Secretary and the Treasurer on the status of the Auxiliary as of that date. In the Secretary's report, mention was made of the several new chapters formed during the past year, and the Treasurer's report indicated a financial gain during the year. Tying in with these two reports, Mrs. Brunton told of the last-minute formation of a chapter at Columbus, Ohio on the night of January 9.

In appreciation of Mrs. Brunton's work during the two years she has served as President, the members and her fellow officers presented her with a beautiful gift.

The next order of business was the appointment of convention committees, the first of which was the Nominating Committee, which included Mesdames Jules DeWilde, A. W. Gruber, Robert Creamer, Walter Larson, and Helen Bush. The Resolutions Committee included Mesdames Mary Strong, W. E. Anglin, and E. M. Wickham. The Auditing Committee consisted of Mesdames Harry Streich, J. B. Venters, and Frank Kutil, and on the Tellers Committee were Mesdames Ivy Burns, Leona Salter, and Irene Walters.

Monday Afternoon

At 2:00 p.m. on Monday, the meeting was again called to order by President Mrs. Brunton, and the report of the Nominating Committee was received as the first business of the afternoon. When this report had been duly considered and additional nominations had been received from the floor, the election of new officers took place with the following results: *President,* Mrs. C. J. Doyle; *1st Vice-President,* Mrs. R. C. McCarthy; *2d Vice-President,* Mrs. W. E. Anglin; *Secretary,* Mrs. A. W. Gruber; *Treasurer,* Mrs. Jules DeWilde; *Sergeant-at-Arms,* Mrs. Helen Bush; *Board of Directors,* Mesdames Robert Creamer, John Sackey, June Brunton, Mary Strong, and Walter Larson.

Mrs. Brunton then introduced the new officers and turned the meeting over to the newly-elected President, Mrs. Doyle. Mrs. Doyle made a very fine acceptance speech, expressing her thanks to the group for the confidence they had placed in her.

A secretary's brief case was presented to the Missouri Valley Auxiliary for having the greatest number of new members during the year.

Reports from the Resolutions Committee and the Auditing Committee were the next items of business, and then a unanimous vote from those in attendance resulted in the decision to send $5 to the National Red Cross office. A vote was also taken and duly passed that all national dues and per capita tax come due on the first of January of each year.

One of the first things Mrs. Doyle did in taking over her new office was to appoint an Entertainment Committee to serve during 1941. This committee consisted of Mesdames

(Continued on page 72)

The Question Box

Readers are invited to send their problems pertaining to the servicing of household refrigerators and small commercial refrigerating equipment as well as oil burners to "The Question Box."

TEST SUBSTITUTE FOR ICE CREAM

QUESTION 426: We recently contacted a plant manufacturing display refrigerators whose engineering staff were using various sized sandbags as a substitute for miscellaneous food load, while testing new display case designs.

Our problem is ice cream cabinets and storage boxes. The use of ice cream is not always practicable on account of trouble with spoilage and limited use period. Our question is as follows: "Do you know of a practicable substitute for ice cream that could be used in place of ice cream when testing ice cream cabinets?"

ANSWER: At first glance, it would seem that a suitable substitute would have to have approximately the same specific heat and density as the food to be cooled, yet in view of the fact that the company you mention is using sand as a substitute, I wonder if this is necessary. I don't know what the specific heat of sand is, but it seems very unlikely that it is close to that of a miscellaneous assortment of foods, and certainly the density would be much different. Therefore, I am wondering if it is not merely a question of varying the amount of sand so that the total amount of heat it contains will nearly equal the total amount of heat expected from a full load of the product to be cooled in the cabinet. If this latter is the case, then possibly sand could be used as a substitute for ice cream as well as for miscellaneous foods.

There is only one other suggestion that I could make, and that is that some one of the eutectic solutions be used as the substitute. These could be used to advantage for the reason that they could be mixed to freeze at any temperature desired, thus duplicating the freezing temperature or hardening temperature of the ice cream.

COMMERCIAL SYSTEM UNBALANCED

QUESTION 427: I have a commercial job which has been giving me some trouble as to the matter of adjustment. Here is the problem:

There is a walk-in cooler about 6 x 8 x 9 feet high, which has a dry system with a thermostatic expansion valve. Also on this Frigidaire unit is a 12-foot case with 8-foot display and end bunkers, in which are wet coils or float valves. There is a hand-operated valve in the suction line on the display case.

About a week ago the expansion valve in the walk-in cooler had to be replaced. I installed a Detroit 673 (sulphur job) and now we are having trouble trying to adjust the temperatures in both cooler and case. The cooler gets too cold and the case isn't cold enough. This job has been operating for four years with the hand-operated valve in the case suction line opened one-half round. Now we have opened the suction line valve two rounds and the case isn't cold enough yet. I suggested a temperature control valve being installed, but, of course, he says it has been operating without one and should yet.

The wet coil in the display case farthest away from the compressor seems to frost very well, but the other one frosts very little. I have checked the refrigerant and added some; however, I didn't lose any when I changed the expansion valve. The compressor cycles and seems to operate very well, but the case hasn't been cold enough since the valve in the suction line was opened two rounds, whereas it was cold enough when the valve was opened one half round. What would you suggest?

ANSWERS Apparently, from the way the system is operating at the present time, the hand operated valve is in the wrong suction line. This valve was evidently intended to be used as a manual throttling device in the fixture, which was to be maintained at the highest temperature. It may be, of course, when the installation was made that the customer required the display case to be at a higher temperature than the walk-in cooler,

and for this reason, the valve was placed in the suction line of the display case.

Now, according to your description, it is desired to have both fixtures at approximately the same temperature. Therefore, it will be necessary to have the suction line on the display case wide open, and if the cooler still maintains a lower temperature, it would be necessary to throttle the line on the cooler.

The fact that one of the coils in the display case is not frosting as heavily as the other seems to indicate that there might be something wrong with the coil. This could be too much oil in that particular coil, or may be due to an improperly calibrated float. Of course, the only reliable method of correcting the trouble is to do exactly as you suggested to your customer, and that is to install a two-temperature valve in the suction line of the cooler, but since he will not stand for the cost of that, you may be able to make a satisfactory adjustment by inserting a hand operated valve in the cooler line and throttling it until satisfactory temperatures are obtained.

WESTINGHOUSE UNIT

QUESTION 428: I am having some trouble servicing a model B-122 Westinghouse refrigerator. About every two weeks it refuses to start.

I tapped on the float to open it and it worked all right, but finally it refused to start with the tapping. During this period, sometimes it would not refrigerate although it continued to run. I removed the float and found it quite full of carbon. I cleaned it with carbon tetrachloride and replaced it.

The compressor checked o.k. as to valves. It pumped and held a 28-inch vacuum against a 40-pound head pressure. I also installed a ½-h.p. rating Zenith filter in the line, just ahead of the float. I then held the unit under a vacuum for 24 hours using a vacuum pump.

After charging the unit with 2½ pounds SO_2, the head pressure was 60 pounds and the back pressure came down to "0," but would drop no farther. When I added about ½ pound more refrigerant, the head pressure came down to about 35 pounds and the discharge line suddenly cooled off. The back pressure gradually came up and continued to rise. The suction line was normal, and the coil frosted nicely almost to the top and then began defrosting. I discharged the unit and replaced the float, repeating the same process as before except that I charged through the suction line. The same results took place.

I can't figure out why the compressor seems to be o.k. when it isn't charged or is partially charged, and then all of a sudden stops refrigerating. There hasn't been any trouble as far as starting and stopping is concerned.

If I take the cap off, can it be done by grinding the weld with a grinder? What is the correct oil charge for this model, and can oil be charged through the suction line? Will the motor have to be rewound because of moisture and SO_2 acting on the motor winding insulation? What is the best cleaning solution to clean out carbon and deposits if moisture is present?

ANSWER: The reactions of the Westinghouse unit after the addition of more gas, all point toward an overcharge of refrigerant. This is exactly the way that any highside float system will perform when the evaporator is flooded and liquid is returning to the compressor. The head pressure will always drop considerably and the back pressure will climb until the two pressures are very nearly equal.

However, I note you have charged into the machine, a total of three pounds of refrigerant, and according to the data I have on the B-122 unit, this is the proper charge.

There is one other possibility, of course, and that is that for some reason or other the unloading valve in the compressor is not holding properly or opens up after the pressure increases. The unit can be opened by grinding away the seal with a grinder. I imagine it would be a rather difficult job doing it in this manner, since there would be quite a lot of grinding to do.

Oil can be charged into the unit through the suction side with full assurance that it will be trapped in the oil sump of the compressor. The suction line enters the dome of the compressor and the dome is filled with low pressure refrigerant. The oil then would have an opportunity of dropping to the bottom of the case and being trapped there. I'm sorry I'm unable to tell you the oil charge of these units, but there has never been any information of this kind released, and it has not been our luck to secure it from any source.

I don't believe that the motor would have to be rewound because of moisture, or any other condition, providing the motor tests o.k. and there are no shorts through the insulation.

After the rebuilding has been done, the entire system, of course, will have to be

thoroughly dried under a vacuum in an oven, and this drying process will dry out the motor as well as the rest of the system.

I believe that the best cleaning compound to use in cleaning the system will be carbon tetrachloride, although compressor parts may be boiled in an Oakite solution in order to remove grease and carbon.

WHAT DO YOU THINK

QUESTION 429: Here are a few questions I want you to answer for me. 1. Do you think the hermetic sealed units will gradually put the independent service shop out of business? 2. Do you think the independent service engineer will gradually service the sealed units? 3. Will the expense be too great? 4. Do you think the refrigeration mechanic will be more and more in demand each year, or less? 5. How can a man fix an automatic expansion valve so that water cannot get inside and freeze up on the outside bellows? SO_2 job? 6. Will a service man have to learn how to braze and weld and run a lathe to repair sealed units? 7. Is it worth while to try to repair General Electric Domestics (household boxes)? Does it pay in the end? 8. What are some allied types of work the service engineer can do to make money during the cold weather?

ANSWER: 1. I don't believe that the hermetic unit will have a great deal of effect on the independent service shop because other applications are continually coming up which will easily replace the work lost through hermetically sealed jobs.

2. There are a great many independent service shops at the present time that are servicing sealed units and doing a pretty good job of it. These shops, of course, have to be very well equipped, and the work is more highly specialized than the usual run of field service.

3. The expense involved in servicing hermetic units is far too great unless you are properly equipped to do the work, and in order to be properly equipped to do the work, it is necessary to have rather a large amount of hermetic work. It would not pay to put in a lot of expensive equipment to handle this type of work unless you had enough work to warrant that expense.

4. Providing the service man keeps himself up to date and is continually improving his knowledge of refrigeration, there should be more and more demand for his services. The refrigeration field is a fast growing field and is forever changing. It is, therefore, necessary that the man engaged in this work be continually alert to these changes and keep himself thoroughly up to date on modern methods. If he is satisfied to go along using the old methods, there is the probability that he will be left behind, eventually finding himself so much out of date that he is not able to compete with his competitors in the field.

5. The only way to fix an automatic expansion valve so water does not get inside is to be sure that it is properly sealed at all points where moisture might enter. For instance, the gasket at the base of the bell covering the bellows should be equipped with a good gasket so that it can be properly sealed at this point against entrance of air and moisture. The packing around the adjusting nut should be tightened after each adjustment is made, or where there is no packing provided, a rubber cap should be installed over the adjusting screw.

6. Yes, it would be necessary for a service man to learn the art of brazing and welding in order to do hermetically sealed work. The amount of lathe work to be done is not very great, but he should have some knowledge of this machine.

7. It is not worth while trying to repair General Electric domestic units unless, as I stated before, your shop is properly equipped to handle them, and because this equipment is very expensive, it is not worth while putting it in unless you have sufficient work to warrant the expense. Most service men who have only an occasional hermetic unit to deal with, send the rebuilding out to a shop that is equipped to handle it. They perhaps do not make as much money on each unit in this way, but they certainly have less grief, and they will save considerable in equipment in their shop.

8. It is practically impossible for me to suggest what other work you may do during the cold weather, since this will depend so much on your locality and what work is available in that locality. In the larger cities, some men have found that servicing carbonators provides a pretty good fill-in, while others arrange to accumulate used commercial and domestic refrigerators, which they can rebuild and put in first-class shape during the winter time and sell in the summer time. Utilizing the winter time to contact your customers and sell rebuilding work is another way of occupying this slack season. There are many other things that follow much along this same line. However, as I stated before, the possibilities depend entirely on your territory.

COMMERCIAL

INCREASE BUSINESS BY DOING A MORE EFFECTIVE JOB OF SELLING *Selling*

Selling Your Services

★ **In which the author brings to attention some of the best founded selling points in a manner which is both entertaining and impressing.**

By C. R. Logan

IN presenting a talk recently on this important subject, the chairman remarked in his introduction of the speaker that "it will be the speaker's *ambition* to help us improve our sales ability." No one could have more adequately expressed my ambition, and it is only an ambition, for there is no definite promise of any nature as to the results. For the past fourteen years in this industry it has been my ambition to improve my own sales ability, and I sincerely hope that some of the ideas contained herein will find a welcome acceptance. There will be nothing revolutionary, nothing that you have not already known. It may be differently attired; however, you'll recognize the various points. It's what you actually do with the ideas that counts today.

Ernie Pyle Makes a Kick

Ernie Pyle, the columnist, gave me the idea for this paper when he very recently commented, "It seems to me there is not much pride of workmanship among the workmen of America. In five years of having things fixed from coast to coast, such things as autos, watches, clothes, traveling bags, typewriters, and what not, we have received shameful work more often than competent and honest work."

Ernie Is Right

To the writer a great portion of this criticism is justified, and certainly something can be done about whatever other portions may remain. It is necessary that we incorporate the art of selling into our daily tasks. Now selling is certainly not new, it is as old as life itself; it is in reality creating a desire in the minds of others for the particular article or service which we have to offer. This desire must of necessity be greater than the dollars or products which the other suppliers have, control, or can secure.

When you as an infant sold your mother on various needs and desires, that was selling.

When you as a youngster sold your dad on staying up late of an evening, by various subterfuges, that too was selling. Later, as a young man, you sold your family on a particular need for and perhaps a particular make of automobile. When, still later, as a very promising young man, you sold a very certain young lady on the idea of life partnership, you really put your heart into the selling job.

Selling did not stop here, for every once in a while now, you have to sell your better half on the idea of a night out with the boys.

Every female, single or married, does some clever selling when necessary, and let me state very definitely that these sales are oft-times better conceived than most of the males will give credit.

Recently I was the victim of a selling plan for new wall paper, and let me confess frankly, when I finally capitulated we had contracted for papering the entire house, new kitchen linoleum, a new sofa, five new lamp shades, and two new chairs. Would you believe it that I had never realized just how uncomfortable the old chairs were and how dirty had been the old wall paper? And further, it was surprising how quickly those suppliers appeared as if from nowhere.

Every successful man is so because he is a salesman, selling ideas, changes and products. Nature herself is a bit of a salesman, what with the beauties and colors of the flowers, trees, skies, landscapes, and the seas. Even your dog sells you by his barking and the wagging of his tail —let alone the look in his eyes.

What Selling Really Is

Selling, then, develops into a timely bringing to light of a great many of the advantages, conveniences, beauties, and economies in our lifetime of service and progress on this earth. Selling of services is not special attention to any one prospect, guest or detail; it is the accomplishment of a complete job to the very best of one's ability.

The two most important considerations in connection with selling are first, the *purpose* and second, the *object.*

The purpose is to supply some human need or want. Here we often overlook the fact that for every dollar expended in the supplying of these needs or wants, holding goodwill and patronage through faultless work and attention to detail should be our prime consideration. The individual or group which places purpose first and does his work well, thus helps his business to serve his customers and will undoubtedly prosper.

The object of selling is to make money, and everyone connected with selling is interested in precisely that point. The man or company which places the object first, who cares nothing about his customer's interests, who thinks only of himself and his monetary gain, is doomed to disappointment and failure.

We must understand and appreciate these two considerations, for they are quite different; and finally we must take into our every consideration the fact that we are all paid for serving our customers and not for serving ourselves.

We come now to the types of men you and I see in the refrigeration service business. There are eight types, and you are fully acquainted with all; doubtless you may have additional types to suggest, but for the purpose of this paper you may find the eight quite sufficient.

The Eight Types of Servicemen

1. The Cock-sure know-it-all type.
   (a) Costs are usually double.
   (b) Makes many unnecessary repeat calls.
   (c) Customer dissatisfaction.
   (e) Material costs usually much higher.
2. The Sullen Type.
   (a) Can't and won't make friends for your service or for himself.
   (b) Antagonizes your customers and employees.
   (c) Never satisfied with the tools or equipment.
   (d) Does not co-operate with other employees.

(e) Feels he is much misunderstood.

3. The Hammer and Crowbar type.
   (a) Customer's present equipment lousy.
   (b) Working conditions and location frightful.
   (c) Daily proves that the service manual and instructions are wrong.
   (d) Really makes the installation unworkable.
   (e) Knows where he can get a second-hand body real cheap.
4. The Perfect Serviceman.
   (a) The boss gave him the wrong address.
   (b) Had the office told him he could have done a better job.
   (c) Had a case just like that yesterday—very simple.
   (d) Could fix it immediately, if he had the other truck.
   (e) The others in his organization are just fair.
5. The Speedy Serviceman.
   (a) Too busy to fully go into the real problem.
   (b) Takes it apart and then finds that several necessary knick-knacks will have to be ordered from some other city.
   (c) What a wild time he had the previous night.
   (d) Gives instructions to his helper and leaves.
   (e) Taking in a ball game this afternoon.
6. The General Utility Man, ofttimes called a helper.
   (a) It must be a very late model, for he never saw one just like that.
   (b) Very willing to do anything to fix it.
   (c) It must be the expansion valve.
   (d) There is no mention of this in the manual.
   (e) Goes down to the jobber for a new valve and several questions.
7. The thoroughly sincere boy who would like to fix it but can't figure out why it won't freeze.
   (a) Takes it back to the shop.
   (b) Materially increases customer and company costs.
   (c) Process of elimination by taking it all apart.
   (d) Usually results in a necessary bake-out job.
   (e) Resorts to the telephone in attempt to get the boss's slant.
8. The Final Type, as in all Horatio Alger books, the boy who really knows his business.
   (a) Works like a Trojan.
   (b) Tries to help all the other fellows.
   (c) Active in industry affairs.
   (d) Nearly loses his family.
   (e) Surrenders his job and starts a company for himself only to be confronted with all the above ideas by all his men.

Now let us discuss the two types of methods employed in refrigeration service:

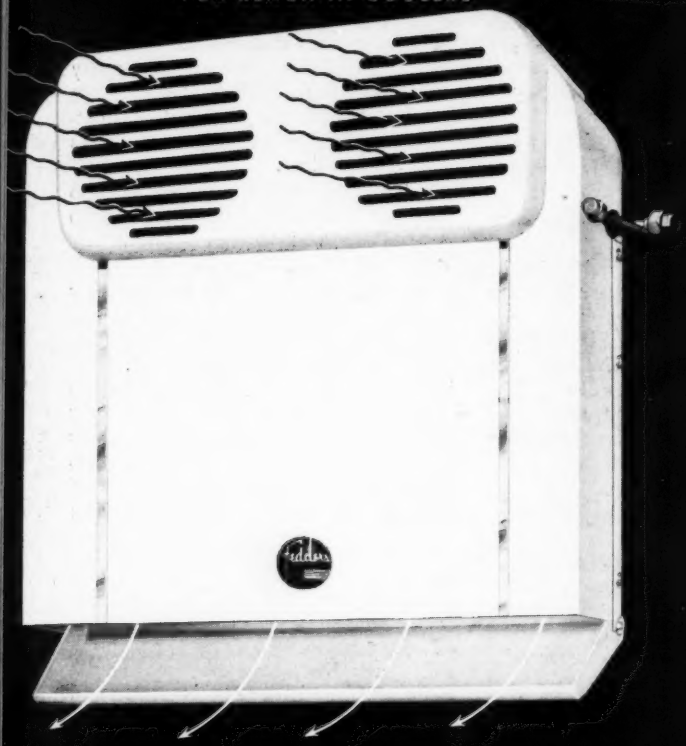
The Poor Method

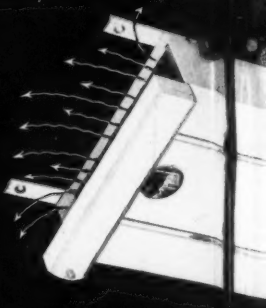
1. Does not know the field, the products, or the job.
2. Uses cheap, inferior parts and products that save him temporarily 10% and later cost both him and the customer about 100%.
3. Disrupts the customer's business, his routine, his premises, and his peace of mind, resulting in loss of confidence in the original investment and the industry in general.
4. Unreliable promises, discourtesy, and refuses to let even the customer finish a conversation. Let the customer talk, he's paying the bill and a lot can be learned.
5. Lagging behind the developments of the industry, should take various trade publications, courses, and delve into manufacturers' literature. *(Continued on page 44)*

Specify and Buy **FEDDERS UNIT CO(E**

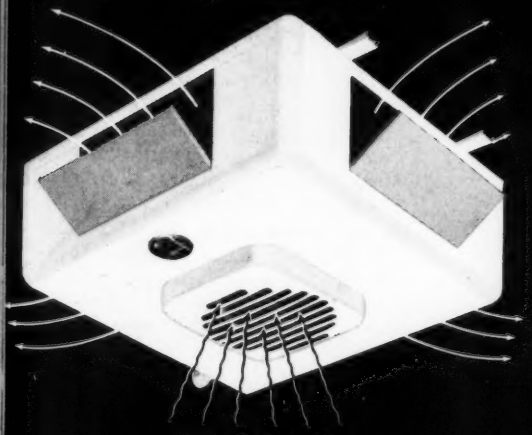
AND ASSURE YOURSE(:

FED-R-LUXE
FOR REACH-IN COOLERS





FED-R-ZERO
FOR LOW TEMPE ATU



FED-R-4 WAY
FOR WALK-IN COOLERS

FEDDERS PRE

COMPLETE LI E

in the Refri

Well Graduated Sizes

Models, sizes and capacities fit every type show case, reach-in cabinet, walk-in refrigerator and bottled beverage cooler... wall and ceiling models... standard, low temperature and comfort cooling. BUY FEDDERS.

New Beauti

Pure Chin White Polar Gre em chrome a sca in with a surr sales appe ...e looks new or ye BUY FEDDER

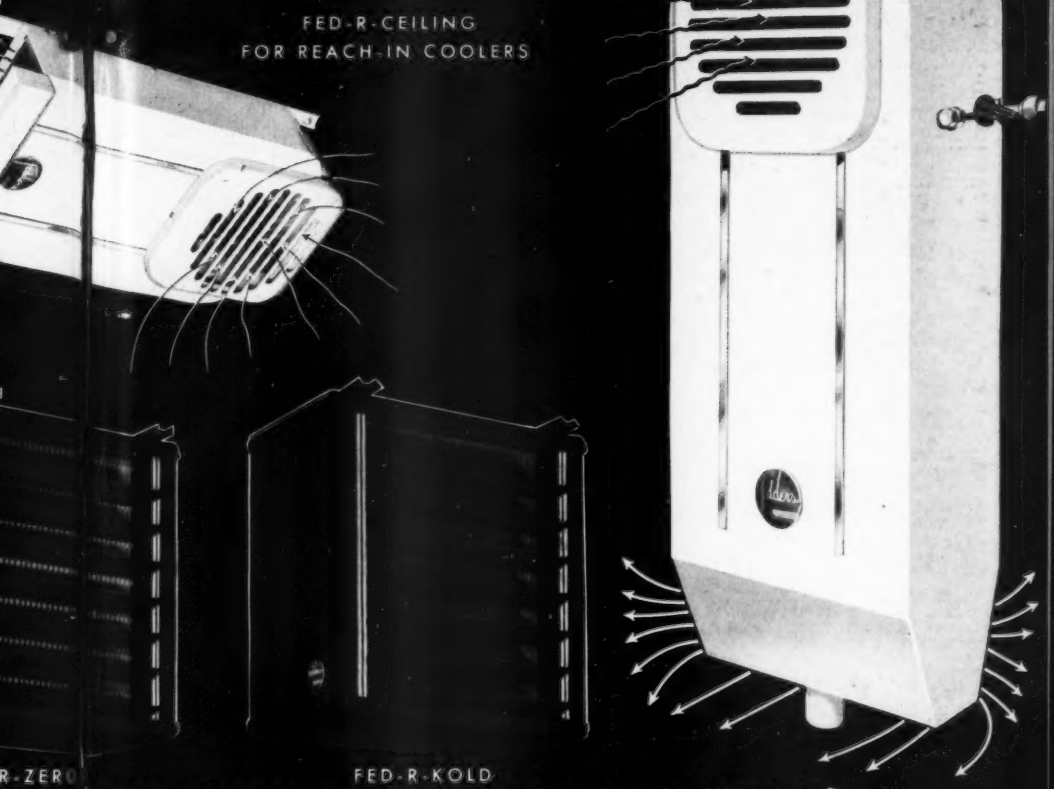
FEDDERS MANUFACTURING C

BUFFALO, N. Y.

T COOLERS

URSE OF DELIVERIES IN 1941

FED-R-INDIRECT
FOR REACH-IN COOLERS



FED-R-CEILING
FOR REACH-IN COOLERS

R-ZERO
TEMPERATURES

FED-R-KOLD
FOR STANDARD REFRIGERATION TEMPERATURES

RS PRESENTS THE MOST
E LINE OF UNIT COOLERS
e Refrigeration Industry

New Beautiful Finishes

Pure China White and Opalescent Polar Green embellished with chrome and scarlet trim blend in with any surroundings. New sales appeal...easily cleaned... looks new for years not months. BUY FEDDERS.

TURING CO., INC.
, N. Y.

Use Coupon for New Catalog

Fedders Manufacturing Co., Inc.
Buffalo. N. Y.

Kindly send to my personal attention the new Fedders Catalog R-411 so I will have the complete story on Fedders Unit Coolers and other new Refrigeration Products.

*Name*_____

*Address*_____

*City*_____ *State*_____

FED-AIR-KOOL
FOR COMFORT COOLING

(Continued from page 41)

6. Leave the various jobs half finished, renders unusable the various other services such as water, light, and drain.
7. Shady deals, repainting and redecorating of units, etc., without thorough overhaul. Under-capacity of coils, motors, etc.
8. Leaves the job dirty, unbalanced, noisy, etc., without informing the customer of the reason or his prospective return.

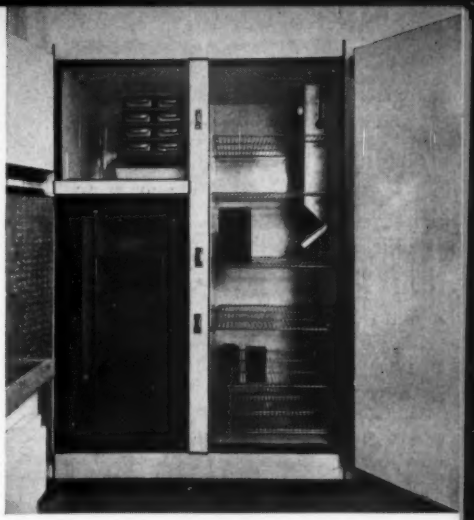
The Proper Methods

1. Call as promised, introduce yourself, repeat your name clearly and present a card showing your company name, address, and telephone number. See that this card also has on it your own name—this will materially add dignity and stability.
2. Your advertisements, your truck, your stationery, your clothes, the voice that answers the telephone, in fact the entire first impression your customer gets, is important. It is not necessary to have the latest style clothes but you can appear neat, clean, and even be a gentleman with a red necktie and tan shoes. These are all a part of your service and should receive their just consideration. I know of one company that has placed a large full size mirror at the exit to their service department, assists in building pride.
3. Do not take a chance on first impulses; look the entire situation over carefully and make the necessary mental notes. Do not guess. It will stand you in good stead later, and may be the means of saving you many hours, as well as your own face and self respect as a real serviceman.
4. Cut down any unnecessary noises; tubing runs are to be made in workmanlike fashion and fastened securely. Clean and polish all bright materials and do not allow dirt and dust to enter the system. Install a company name plate, label all valves, and always install a unit above flood water levels.
5. Every member of your organization, from the telephone operator to the boss, is valuable only in proportion to their ability to serve your customers. Make no mistake about this, even though you may be someone's cousin or brother. Have and take pride in each installation and service call you make and especially in your workmanship. Secure the correct spelling and pronunciation of names involved.
6. Clean up your workshop, your tool kit, your tools, and above all buy good tools the same as you do with materials. You're not dealing with five-and-ten-cent items; these installations run well into the several hundreds of dollars. Lay out your shop for greatest efficiency and recondition it and your old jobs in off times and off seasons.
7. Prepare an album of pictures of your installations and use these to sell others on your type of service. Some of your customers may even clean up their cellars when they realize that you are having a photo made. Call customers down to thoroughly inspect your job. Phone them in about a month and inquire about the job; you'll find they have several prospects to give you.
8. Your customers will pay you well for this type of service. Yes, I realize you'll run across many of the opposite type; but then, who doesn't? Leave the job cleaned and polished with a check in hand, for after the inspection is the time to present your bill. Remember it is their dollars that pay for it and it is their dollars that pay you.

In conclusion, may I recall to your mind one bit of wisdom that has never hurt anyone. Life is service, and the one who gives his fellow being a little more—a little better service—is the one who succeeds.

Huge Refrigerator Meets California Sportsman's Needs

by Robert Latimer



A. L. WORTH, president of the Refrigeration Service Company, of Stockton, California, is one refrigeration service engineer who has found a source of profitable business through advertising his firm as capable of not only installing and maintaining commercial refrigeration for a thousand uses, but also of supplying specialty refrigeration of many kinds for out-of-the-ordinary prospects. During the past five years, the Worth service company has installed refrigeration equipment for everything, from surgical-preservation purposes to huge domestic refrigerators for the use of sportsmen who like to keep their "kills" preserved for indefinite periods of time.

"We think the refrigeration service engineer has a merchandising opportunity in his ability to construct special refrigeration jobs which the customer cannot possibly buy in pre-fabricated equipment," Mr. Worth explained, "and by demonstrating that he is able to meet quickly almost any type of refrigeration emergency."

Typical of that theme, and one of the outstanding examples of Mr. Worth's work, is the huge three-compartment refrigerator pictured above, which was built by Mr. Worth for a well-known game hunter of Stockton. With large quantities of game constantly on his hands, James Connell, the sportsman mentioned, was in dire need of some type of large-scale refrigeration equipment when a visit from Mr. Worth convinced him that an adequate refrigerator could be easily set up in his own home.

As pictured, the box has a capacity of 45 cubic feet, which enables the owner to stock up on all food and general produce in large quantities far in advance of his actual need. Mr. Connell, since using the refrigerator, has cut his food bills considerably, as well as completely eliminating the spoilage-loss factor in game killed on his hunting trips.

The large storage compartment on the right in the illustration is equipped with a Peerless "gun cooler" and may be used as a pre-cooler prior to sharp freezing. Three Peerless "zero pads" are employed in the frozen food, or sharp-freeze, compartment at the lower left. The section at the upper left provides a large supply of ice cubes and is equipped with a Peerless ice cube maker. Three Peerless VL valves with properly sized orifices to match each coil, and a model A-L Peerless capacity booster complete the low side equipment in the cabinet.

Refrigeration is furnished for the ice cube and "zero pad" compartments by a ⅓-hp. Par compressor. A ½-hp. Par condensing unit furnishes refrigeration for the general storage compartment and for a Peerless unit cooler which is installed in a small walk-in cooler in the basement of the home.

Jesse E. Rauch, engineer for the California Refrigerator Co., San Francisco jobber, assisted in the engineering and selection of the equipment used. Simplex Manufacturing Co., Oakland, California, designed and produced the cabinet.

Businesslike Merchandis
Refrigeration Ser

by Herbe

» A profitable increase of business in the refrigeration service field is largely a matter of how well the firm "merchandises" the various services it can offer, according to Frigid Refrigerator Service Corp., St. Louis, Missouri—and the novel experiences of this large middle-western service engineering firm are an ideal example of that theory.

In business nine years, Frigid Refrigerator Service Corp. is at present one of the largest service organizations west of the Mississippi, specializing in commercial refrigeration and air conditioning service, and operating a crew of 12 service men. On its books are more than 2400 regular customers, all of whom have been earned through good merchandising, according to Service Manager Richard Mathias.

An authorized Frigidaire service dealership, the Frigid firm sells major appliances for domestic use as a side issue, and has grown up gradually on a basis of trial-and-error operations which ultimately showed the correct road to more and better customers. "We're still a new type of industry, and one which has very little precedent on which to gauge the success of any idea," Mr. Mathias points out, "and consequently, we find that the most direct road to building up our business is simply experimenting until we hit the correct stride."

"Merchandising" in Mr. Mathias' terms, "is simply extracting the largest possible amount of potential customers from any district by making it impossible for them to overlook the firm." With this theory uppermost, the company has developed a systematic "prospecting" and "follow-up" merchandising plan which will be of interest to service engineers throughout the country.

The telephone book comes first, because of the importance of yellow-page directory display advertising, which Mr. Mathias stresses as the source of at least 70% of his entire customer list. "We chose our name for two reasons," he explains, "first, because it is difficult to pronounce, and because of that, will be easily remembered; and second, because this combination of words earns the name a listing under every conceivable refrigeration heading in the directory pages. We have found through checking our customers that all but a small percentage of them chose the name from this source at random." Accordingly, Frigid Refrigerator Corp. listings appear in 16 places in the St. Louis telephone directory.

When a prospective customer calls the office, it has been found wise to make him unobtrusively repeat the name once or twice, for once this has been done, the caller will remember it clearly.

That's the source of new customers which has proven effective for the St. Louis firm. From

FRIGID REFRIGERATOR SERVICE
Corporation

Date .....

Dear Sir,

We recently rendered service to your refrigeration equipment amounting to $.....
Will you kindly give us the following information so that we shall know whether work done was satisfactory.

Is your refrigerator operating satisfactorily? .....

Do you feel that charge rendered was fair? .....

Were employees courteous? .....

Remarks: .....

.....

.....

Form No. 12 -500--7-40 Signature

Fig. 1—Follow up card used by Frigid Refrigerator Service Corp.

...handising of Commercial ...ion Service Rewarded

...erbert Hanley

that point, there are two separate programs of customer handling which Mr. Mathias has developed into a remarkably efficient customer-control; opening up the road to sales of complete refrigeration and air conditioning equipment, creating a market for several specialized services, and making a regular customer in every case.

After the first call, when the job ticket is turned into the service dispatcher's office, the second point in the program swings into action. This is the use of penny "foldover" postcards (Fig. 1) as an effective type of direct mail, which have been used by the company for more than six years.

The postcard sent is in two parts; one, a "reminder" card (not shown) to be tacked up near refrigeration equipment serviced for reference in making later emergency calls, and a return-addressed business reply card which asks the customer to make a report on the job just completed the day before the card is sent. Informing the customer that his refrigeration equipment has been serviced, the card asks whether it is functioning perfectly, whether the charge was thought fair, and finally, for remarks. "We average 80% returns on these cards," Mr. Mathias reported, "and feel that they invoke valuable goodwill for us."

When this policy is completed, the customer's name goes into a huge master-index file maintained by the company for five years, which contains 2400 active accounts up to 1941, and 1000 semi-active listings. All are commercial refrigeration or air conditioning locations, and every service call of any kind is routed entirely through this file.

The huge file has several novel uses and innovations. First, all cards are classified by color according to equipment. Blue cards, for example, mean Frigidaire equipment, red means Servel, and buff, miscellaneous makes and types. In addition, they are filed by streets—so that an emergency call from a certain street can be more quickly answered through immediately selecting the group of cards for that street. In this group, names are arranged alphabetically, every card containing make of equipment, call number, date of first call, and check backs. A special section gives complete details on the equipment—facilitating the dispatcher in diagnosing the trouble. A reproduction of this card is shown in Fig. 2. The major reason for this practice is speedy service, allowing the management to ascertain with a quick glance the location of the customer, and to send correct parts and tools out of the shop with the service man in a few moments. The color of the card determines

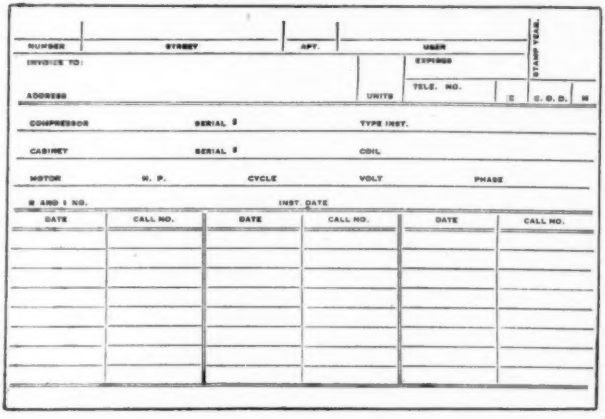


Fig. 2—Sample of file card used in Master File.

IMPORTANT

To avoid costly repairs on your Air-Conditioning Equipment, it is necessary and advisable to pump down the entire system and drain the water during the winter months.

For a comparatively small service charge our Factory Trained Men are prepared to do this work at your convenience. TEAR OFF, SIGN AND RETURN THE ATTACHED CARD WHEN READY FOR THIS WORK.

TACK THIS CARD NEAR YOUR AIR-CONDITIONING EQUIPMENT FOR READY REFERENCE WHEN IN NEED OF SERVICE.

FRIGID REFRIGERATOR SERVICE CORP.

3232 Olive Street

St. Louis, Mo.

JEfferson 7575

Nites and Holidays
GRand 1160

Fig. 3—Postcard Mailing for Air Conditioning Service.

the tools and parts involved, and these are turned over to the service man assigned to the call.

Every service man carries stock parts in his car, expansion valves, filters, belts, dryers, coil sections, etc, but does not bother with motors, compressor bodies, etc, because the file takes care of this for him. The service man is thus left free to do his particular job.

Increasing Sales of Parts

From the same file has arisen most of the consistent volume of parts and complete refrigerating systems sold by Frigid Refrigerator Corp. "We can sell any job we service," Mr. Mathias explained, "and make a routine practice of going through the file every three months for leads on old equipment which needs replacement. From such instances, in which a continual amount of repair charges indicates a need for new equipment, we realize most of our sales volume, and can use the file record card as a convincing argument in making the sale." The company specializes in installations up to 10 tons in refrigeration and air conditioning, and will install any type of equipment. During the last five years, the firm has replaced scores of obsolete ammonia refrigeration systems with new, efficient equipment.

In the field of special services, the filing system has repaid its cost a thousandfold. Most interesting and profitable development of all is a twice-a-year direct-mail program concentrated on air conditioning users in St. Louis for start-up and pump-down service in April and October.

Advertising this service as "carefree maintenance at a price," the company now automatically starts up and stops over 1,000 air conditioning systems, 80% of which were realized from a check of the files and another penny postcard mailing shown in Fig. 3. During April, an average of 400 business-reply postcards pointing out that air conditioning systems should be cleaned, tightened up and oiled in advance of the summer months, are sent to prospects from the file. In October, a similar number goes out advising conditioning operators of the wisdom of pumping down equipment for the winter months.

Always Tack Up Your Card

There is no set charge for this service, an estimate being made individually in each case for time and materials. The first price set governs the two operations thereafter, however, and thus Mr. Mathias has built up a self-operating source of profits which keeps an entire crew busy through April and October. In every case, a card is tacked up near the conditioning equipment and pointed out to the operator for his use in making repair calls whenever necessary.

"We have invariably gotten 80% returns on this direct mail merchandising campaign," Mr. Mathias added, "which

Gentlemen:

Please arrange to place our Air-Conditioning System in proper condition for the Winter Months on.....
(Date)

at .....
(Time)

.....
(Name)

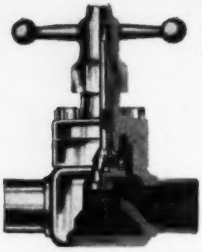
.....
(Address)

Fig. 4—Return Portion of Postcard Mailing.

speaks well for the idea. Most of this service proved to be readily open to us, and has been among the least difficult to maintain."

Finally, the company has maintained its reputation for quick, efficient emergency service by maintenance of a "night crew" of four service men who are always on call at any hour of the day or night, and who are called by a St. Louis answering service whenever calls are received. Service merchandising has paid this firm.

MANY INSPECTIONS MAKE STRAIGHT ARROW THAT BRINGS IN THE BUCKS!
Only by making many inspections on every operation can we build compressors that are worthy of the name, CHIEFTAIN.
TECUMSEH PRODUCTS CO.
TECUMSEH, MICH.



KEROTEST

REFRIGERATION VALVES AND FITTINGS BUILT TO THE HIGHEST SERVICE STANDARD . . . NEVER TO A PRICE!

Just divide their cost by the years they operate and you can readily appreciate the "plus" values built into Kerotest Valves and Fittings—why Kerotests are considered an asset by leading manufacturers of refrigeration and air conditioning equipment throughout the industry.

The Kerotest Bronze Globe Valve, illustrated, assures a full flow of the refrigerant equal to the inside diameter of the tubing and is designed with a non-rotating stem head which eliminates wear on the body seat. Long, trouble-free life is the natural result.

Sizes of these modern air conditioning valves range from ⅞" to 4⅛" solder joints. Valves with female pipe connections are also available from 1" to 2" through Kerotest Jobbers everywhere.

KEROTEST MANUFACTURING CO., PITTSBURGH, PA.

Did You Notice—

IMPRESSIONS OF THE 7TH ANNUAL CONVENTION

WHAT might be a trend in the design of small condensing units. Three manufacturers exhibited for the first time semi-hermetic units, designed to be completely serviceable in the field and ranging in sizes from 1/6-h.p. to ½-h.p. The three manufacturers are: Copeland Refrigeration Corporation, Servel, Inc., and General Electric Company.

The good time the Canadian delegation seemed to be having. One of them, J. C. "Fibber" McKee of Toronto, going around with a sign on his back, "Show Me the Way to Go Home." Also his story with the Swedish dialect, culminating in the revelation of the waywardness of Mrs. 'Arris.

The infectious music and swing flowing from the banjo of Eddie Peabody during the Annual Banquet.

The delegation from the Central Arizona Chapter in Phoenix with their ten-gallon hats and cow-hand regalia.

Stammering over names when some one stopped to speak.

Tired feet after the first half-day, which grew gradually worse as the second, third, and fourth days rolled around.

The mob rushing Detroit Lubricator's room on the third floor where they held open house.

The exceptionally good educational program of the R.S.E.S. meetings, and the very useful and interesting information provided by the speakers on the program.

The fun provided by the "Take-it or Leave-it" program which the Society conducted and paid for, and the swell job that L. C. McKesson did as Master-of-Ceremonies.

The young and beautiful usherettes.

The colorful parade of the ice cream dur-

THESE 110 WELL-KNOWN

Distributors of KERO TEST **Refrigeration Products**

In 32 States and Canada stand ready to serve you.

JOBBERS WITH LOCAL STOCKS

Albuquerque, N. M. .....
.....Radio and Refrigeration Parts Co.
Allentown, Pa. .....Larson Supply Co.
Atlanta, Ga. .....
.....J. M. Tull Metal & Supply Co., Inc.
Baltimore, Md. .....Clendenin Bros, Inc.
Baltimore, Md..Melchior, Armstrong, Dessau Co.
Baltimore, Md. .....Parks & Hull Co.
Bay Shore, Long Island, N. Y. .....
.....Sid Harvey, Inc.
Binghamton, N. Y. .....Service Supply Co.
Boston, Mass. .....A. E. Borden Co.
Bridgeport, Conn. .....Parsons Bros.
Brooklyn, N. Y. .....
.....Coleman Electrical Supply Co., Inc.
Brooklyn, N. Y. .....The Capson Company
Brooklyn, N. Y. .....
.....Melchior, Armstrong, Dessau Co.
Brooklyn, N. Y. .....Perry Metal Products Co.
Buffalo, N. Y..Melchior, Armstrong, Dessau Co.
Buffalo, N. Y. .....Root, Neal & Co.
Cambridge, Mass. .....
.....Melchior, Armstrong, Dessau Co.
Cedar Rapids, Iowa..Dennis Refrigeration Supply
Charleston, W. Va.
Air Conditioning & Refrigeration Supplies, Inc.
Charlotte, N. C. .....Henry V. Dick Co.
Chattanooga, Tenn. .....Noland Co., Inc.
Chicago, Ill. .....The Harry Alter Co.
Chicago, Ill. .....H. W. Blythe Company
Chicago, Ill. .....
....Automatic Heating & Cooling Supply Co.
Chicago, Ill. .....Airo Supply Co.
Chicago, Ill. .....Fred C. Kramer
Cincinnati, Ohio.....The Merkel Bros. Co.
Cincinnati, Ohio.....Williams & Co., Inc.
Cleveland, Ohio.....Williams & Co., Inc.
Columbus, Ohio .....
.....Refrigeration Electric Supply Co.
Columbus, Ohio .....Williams & Co., Inc.
Dallas, Texas.....The Electromotive Co.
Davenport, Iowa.....Republic Electric Co.
Dayton, Ohio.....The W. H. Kiefaber Co.
Denver, Colo.McComb's Refrigeration Supply Co.
Detroit, Mich. .....J. M. Oberc, Inc.
Fort Wayne, Ind. .....H. J. Schroeder Co.
Green Bay, Wis. .....Gustave A. Larson Co.
Greensboro, N. C. .....Hasco, Inc.
Harrisburg, Pa..Melchior, Armstrong, Dessau Co.
Hartford, Conn.....Marsden & Wasserman, Inc.
Hempstead, Long Island, N. Y..Sid Harvey, Inc.
Houston, Tex...Walter Rerrigeration Supply Co.
Indianapolis, Ind.....F. H. Langsenkamp Co.
Jamaica, Long Island, N. Y....Sid Harvey, Inc.
Kansas City, Mo. .....
.....Porslund Pump & Machinery Co.
Knoxville, Tenn.....Leinart Engineering Co.
Lincoln, Neb. .....Ruegg Refrigeration Supply
London, Ont., Canada.....
.....Refrigeration Supplies Co., Ltd.
Long Beach, Calif..L. B. Marsh (Allied Refr'n)
Los Angeles, Calif. .....Frank Gillett Co.
Los Angeles, Calif....Refrigeration Service, Inc.
Los Angeles, Calif. .....
.....Refrigeration Supplies Distributor
Louisville, Ky..Louisville Mill Supply Co., Inc.
Lubbock, Tex.....Anderson-Young Electric Co.
Macon, Ga. .....Lowe Electric Co.
Madison, Wis. .....Gustave A. Larson Co.
Miami, Fla. .....Railey-Milam, Inc.
Milwaukee, Wis. .....Gustave A. Larson Co.
Milwaukee, Wis. ....Refrigeration Specialty Co.
Minneapolis, Minn. .....
...Refrigeration & Industrial Supply Co., Inc.
Montreal, Quebec, Canada.....
.....Railway & Engineering Specialties, Ltd.
Mt. Vernon, N. Y. .....
.....County Seat Plumbing Supply Co.
Newark, N. J. .....T. W. Binder Co.
Newark, N. J..Melchoir, Armstrong, Dessau Co.
New Haven, Conn.....Resco, Inc.
New Orleans, La.....Enocha Sales Co.
New York, N. Y. .....Aetna Supply Co.
New York, N. Y. .....
.....Melchoir, Armstrong, Dessau Co.
New York, N. Y. .....
.....Paramount Electrical Supply Co.
Norfolk, Va. .....Noland Co., Inc.
Oakland, Calif. .....California Refrigerator Co.
Oklahoma City, Okla.....Mideke Supply Co.
Omaha, Neb...Ruegg Refrigeration Supply Co.
Oshkosh, Wis.....Gustave A. Larson Co.
Paterson, N. J.....White and Shauger, Inc.
Peoria, Ill. .....Marquette Equipment Co.
Philadelphia, Pa.....Electric Warehouse
Philadelphia, Pa. .....
.....Melchoir, Armstrong, Dessau Co.
Philadelphia, Pa....Victor Sales & Supply Co.
Phoenix, Ariz.....J. Carl White Co.
Pittsburgh, Pa.....Williams & Company, Inc.
Pittsburgh, Pa. .....Wm. M. Orr
Providence, R. I. .....
.....Rhode Island Supply & Eng. Co.
Reading, Pa. .....Larson Supply Co.
Rochester, N. Y. .....
.....Melchoir, Armstrong, Dessau Co.
Rochester, N. Y.....Ontario Metal Supply, Inc.
Rockford, Ill.....Gustave A. Larson Co.
St. Joseph, Mo.....Bristol Supply Co.
St. Louis, Mo.....Brass & Copper Sales Co.
St. Louis, Mo.....R. E. Thompson Company
Salt Lake City, Utah.....Peerless-Utah Co.
San Francisco, Calif..California Refrigerator Co.
Sioux City, Iowa..National Refrigeration Service
South Bend, Ind.....F. H. Langsenkamp Co.
Springfield, Ill.....United States Electric Co.
Springfield, Mass.....C. P. Payson Co.
Toledo, Ohio .....
.....The Heat & Power Engineering Co.
Toronto Ontario, Canada.....
.....Railway & Engineering Specialties, Ltd.
Troy, N. Y. .....Aird-Don Co.
Tulsa, Okla.....Machine Tool & Supply Co.
Valley Stream, N. Y.....Sid Harvey, Inc.
Vancouver, B. C., Canada....Fleck Bros., Ltd.
Washington, D. C. .....
.....Melchoir, Armstrong, Dessau Co.
Washington, D. C....Refrigeration Supply Co.
Waterloo, Iowa.....Winterbottom Supply Co.
White Plains, N. Y. .....
....County Seat Plumbing & Supply Co., Inc.
Wilkes-Barre, Pa.....Radio Service Co.
Winnipeg, Manitoba, Canada.....
.....Railway & Engineering Specialties, Ltd.
Worcester, Mass.....Standard Supply Co.

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PHILADELPHIA . . . ST. LOUIS . . . SAN FRANCISCO

GENERAL EXPORT REPRESENTATIVES

MELCHIOR, ARMSTRONG, DESSAU CO., INC.
300 FOURTH AVE. NEW YORK CITY, N. Y., U. S. A.

"Mills" is the most important name in commercial refrigeration today.
Write Mills Novelty Company, 4100 Fullerton Avenue, Chicago, Illinois.

ing the Banquet. The ice cream molded in the form of refrigerators.

The color and fun added to the R.S.E.S. Rodeo Party by the red handkerchiefs, cowboy and Indian hats.

The rapidity with which Herman Goldberg got several hundred feet of movie film, taken by him at the convention, developed and ready for showing at the Rodeo Party. We wonder if he showed it while it was still wet.

The larger than usual attendance of ladies, who helped so much in making the convention a social success, as well as a business and educational success.

The large number of camera fans present, with Irving Alter leading them all in the number of pictures taken. Irving seemed to be everywhere.

The popularity of the three booths showing freezing equipment and serving ice cream to all their visitors.

The walls practically bulging with a capacity crowd at the Rodeo Party.

The boy who opened the wrong door and found himself locked out on the fire escape, with the only alternative that of walking down 17 floors to reenter the hotel.

The Canadian attendance was exceptionally fine, in spite of the stringent Canadian regulations.

Fifty-two representatives of various chapters at the R.S.E.S. secretaries' luncheon.

CHIEF KIAUTUS LOSES VALUED POSSESSIONS

CHIEF KIAUTUS TECUMSEH, of the Tecumseh Products Company, lost some photographs and papers at the All-Industry Exposition. It is possible that someone inadvertently picked up these papers with some literature being distributed in the booth, and as they are of a sentimental value to the Chief, and valueless to any one else, it will be appreciated if they are returned to the REFRIGERATION SERVICE ENGINEER to be forwarded to Chief Kiautus.

For Refrigeration needs consult

WEATHERHEAD

WEATHERHEAD

Refrigeration Valves, Fittings and Accessories

Ontario Maple Leaf Chapter Toronto Sponsors Second Annual Exhibit and Convention

FOLLOWING the success of the first annual Canadian Exhibit and Convention, Ontario Maple Leaf Chapter at Toronto will sponsor the second convention which will be held in Toronto on Monday and Tuesday, March 17 and 18 at the King Edward Hotel.

Last year more than thirty exhibits were provided, and late exhibitors who desired to participate found no available space. Some 300 were registered during the Convention.

This two-day educational meeting provides an excellent opportunity for an intensive educational program, and more particularly, to see interesting displays of modern refrigeration equipment and accessories. The arrangement of the exhibits and the Convention Hall on the one floor keeps the Convention activities segregated and affords an opportunity of securing as much information for those in attendance as possible in the time allotted.

Ontario Maple Leaf Chapter joins with the other Canadian chapters in extending a special invitation to those refrigeration service engineers residing in the States conveniently located to Toronto to make plans to attend this Convention. Particular emphasis is made that there is no difficulty for United States citizens in crossing the Border and no passports are required.

A MESSAGE FROM THE PRESIDENT

MY first wish is to again express my sincere appreciation for the confidence you have shown in me, and I know I also voice the feeling of my fellow officers in this regard.

Your National Officers' year ahead has been planned with one thought uppermost in mind—SERVICE—so it is imperative that your Chapter does its part in order that the Society as a whole will receive the full benefit of this program.

Since it is my earnest desire to serve you to the best of my ability, and our success in the year ahead depends on your complete cooperation, I trust you will see fit to extend to me and my officers your continued support. Progress between now and the next convention will be in direct proportion to your participation in our program.

So let's all get together, boys! United We Stand—Divided We Fall.

E. A. Plesskott,
St. Louis, Mo.

GREATER NEW YORK CHAPTER REESTABLISHED

THROUGH the efforts of an aggressive group of members of New York City, Greater New York Chapter has been reestablished with the expectation that the reestablishment of the Chapter will attract a number of new members and grow into one of the R.S.E.S. representative chapters.

Emil J. Merenda was elected to the office of President, being one of the charter members of the old chapter and one of the charter members of the National Society. In addition he served as first treasurer of the national organization.

Mr. Ernest E. Condon, Secretary of the New York State Association, was nominated and unanimously elected as the First Vice-President of Greater New York Chapter.

Joseph A. Diehm was named as treasurer, and Eugene N. Phillips appointed secretary.

Following the election, Mr. Merenda gave a brief talk on the advantages of membership in the Society and outlined the early formation of Greater New York Chapter.

Among the objects of the Chapter as outlined in this meeting will be the following:

1. To function as a Metropolitan Chapter of the R.S.E.S. serving all branches of the refrigeration industry.

2. To keep in close touch with the latest developments and all matters where refrigeration industry and equipment are concerned.

3. To develop a closer relationship among members, and a spirit of cooperation whereby they can be of mutual help to each other in times of emergency.

4. To encourage good business practices.

5. To further educate the public to the importance of good refrigeration service companies who are members of the R.S.E.S.

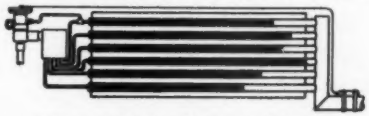
6. To further educate the service man in the importance of doing a good job at

ALCO Multi-Outlet Thermo Values *offer* BETTER DISTRIBUTION *and Insure* FULL COIL CAPACITY

Use ALL the Coil Surface You Buy!

Have you ever installed a larger coil to get capacity when the original coil had plenty of surface? Chances are the trouble was poor distribution. If refrigerant had been distributed evenly to every circuit, the original coil would have had plenty of capacity.

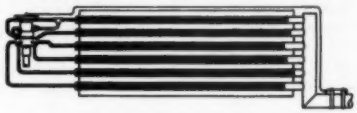
Many jobs are in operation on which the refrigerant is short circuiting through a few circuits and is affecting the thermo valve bulb so that the valve remains choked off. This means



Refrigerant distribution with conventional distributor header and single outlet thermo valve. Note wide variation in refrigerant distribution and wasted coil surface.

that often as little as 50 per cent of some of the circuits are doing any real work.

Alco Multi-outlet valves increase coil capacity as much as 25 per cent because they provide better distribution of refrigerant than is possible with ordinary distributors



Refrigerant distribution with Alco Multi-outlet thermo valve. Note refrigerant is distributed equally and entire coil surface is utilized.

Distribution takes place within the valve body, at the point of expansion and before separation of gas and liquid occurs.

With Alco Multi-outlet thermo valves the feed to each circuit is equal and direct and distribution is not affected by load changes.

To get what you pay for—be sure that all of your coil surface is working—specify Alco Multi-outlet valves.

ALCO VALVE COMPANY

2630 Big Bend Blvd. St. Louis, Missouri

New York • Chicago • San Francisco • Los Angeles • Seattle

ALCO *Engineered Refrigerant Controls*

FOR HIGHEST EVAPORATOR EFFICIENCY

ANSUL Chemical Company, an American business that has grown and progressed in the typical American way, is ready to serve your needs just as it is ready, if necessary, to serve the needs of the Republic. For 25 years Ansul has bent every energy to the production of the finest refrigerants possible. We now face our second quarter century resolved that Ansul quality and Ansul service shall not be exceeded.

ANSUL CHEMICAL COMPANY
Marinette • Wisconsin
Agents for Kinetic's "Freon-12"

RS-24

ANSUL
SULPHUR DIOXIDE
ICE X
METHYL CHLORIDE

THERE IS AN ANSUL JOBBER NEAR YOU

all times, using the best of materials and workmanship.

7. To cooperate with all associations connected or concerned with the refrigeration industry, whereby the welfare of the general public shall be safeguarded, and the R.S.E.S. Association shall be outstanding for the good work they are doing.

Pending further arrangements, meetings will be held on the last Wednesday of each month in the offices of Mr. Merenda at 40-18 Church Avenue, Brooklyn.

Those participating in the original meeting included the following: Ernest E. Condon, Albert Dubiel, Clayton B. Howk, Richard Kuester, Emil J. Merenda, Eugene N. Phillipps, Sidney Spielman, Thomas A. Wetherell, Joseph A. Diehm, William Goodman, Milton Goodman, Nathan Lipert, Max Schiff, F. Tompkins, John Pristas.

* * *

Vincent Mahon,
New York.

May I also say that I find your magazine, THE REFRIGERATION SERVICE ENGINEER, indispensable.

GEO. FRANCK AND HIS TWO NEW BABIES

George Franck, Research Engineer for the Imperial Brass Manufacturing Company, and one of the oldest members of Chicago Chapter of R.S.E.S., is also the proud father of baby Judy, a couple of float valves, various dehydrators, strainers, and other items. He is shown here with his two youngest babies, six-months-old Judy astride the new "Torpedo" dehydrator recently developed by him.

George has made many friends in the service field through his membership in the R.S.E.S. and through his continual willingness to give liberally of his assistance in solving float problems.

We are wondering if something might not come of his ability to design float valves and his new experience in raising young Judy.

This DRY Oil Makes a Big Difference

Use Genuine

FRIGIDAIRE OIL

Avoid troubles that come with an inferior oil!

You could choose no finer oil for your service jobs than genuine Frigidaire Oil. For genuine Frigidaire Oil is the oil used in the famous Frigidaire Meter-Miser, sealed-in mechanical unit of the nation's favorite refrigerator. No higher recommendation could be given any oil!

It's Dry! To prevent rusting of parts to which it is applied. Refined under rigid processing specifications. Must pass most exacting tests for moisture content!

It's Free Flowing! Even at many degrees below zero, genuine Frigidaire Oil supplies complete lubrication... Dependable viscosity, not sluggish under the most severe conditions.

It's Clean! Free of sediment, carbon and gum-forming substances which could damage parts to which oil is applied. No acids, which is particularly important in refrigeration lubrication.

It Stands Up! Withstands unusually high pressures and temperatures—carbon forms less readily than in inferior oils.

Genuine Frigidaire Oil is supplied in the 3 viscosities (75, 150 and 300) most suitable for Sulphur Dioxide, Freon-12, and Methyl Chloride Refrigerants.

• • •

Reasonably Priced! No better oil can be obtained at any price . . . Yet genuine Frigidaire Oil is attractively priced to protect your profits!

Write or Call Today!

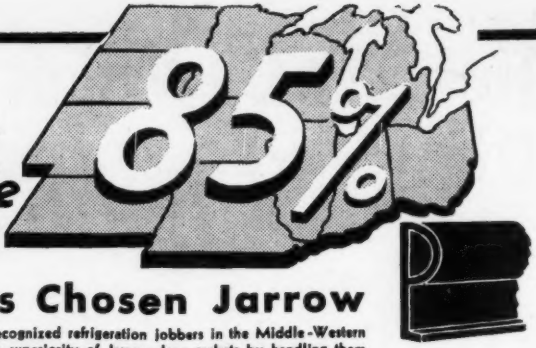
Get in touch with your Frigidaire Distributor at once for all details, including prices. Stock up now with genuine Frigidaire Oil for top lubrication results on your service jobs.

GENUINE FRIGIDAIRE PRODUCTION-BUILT PARTS

FRIGIDAIRE DIVISION, GENERAL MOTORS SALES CORPORATION
Dayton, Ohio

TO SATISFY YOUR EVERY REFRIGERATION SERVICE NEED

The Great Middle WEST



. . . Has Chosen Jarrow

Over 85% of all the recognized refrigeration jobbers in the Middle-Western States have endorsed the superiority of Jarrow door gaskets by handling them exclusively. These impartial experts, who know what the trade wants, prove that Jarrow products are the best that you can buy.

Manufacturers and servicemen know that Jarrow door gaskets are priced right and fit better because they are engineered to give better service. Try Jarrow yourself on your next regasket job. Jarrow gaskets will service over 90% of all refrigerators and cooling rooms in use.

Manufacturers:
SEND US YOUR SPECIAL GASKET PROBLEMS.

Get Jarrow Gaskets from your jobber

THE MOST COMPLETE LINE OF RFFRIGERATION GASKETS AND SPONGE RUBBER INSULATION.

JARROW PRODUCTS

Factories: Chicago and Grand Rapids

GENERAL OFFICE: 420 N. LASALLE ST., CHICAGO

R.S.E.S. Chapter Notes

Under this heading will appear news of the chapter meetings. For names of the officers and dates of regular meeting nights, please refer to the Chapter Directory.

ATLANTA CHAPTER

January 20—A discussion of the progress made by the program committee headed by Mr. Graves, was the first order of business. A report of the committee headed by Mr. Carnell, which is charged with the duty of compiling a service price book, revealed that the book would be off the press the following week.

On the educational program for the evening, H. T. Noone, of the Brunner Manufacturing Company, presented a paper on "Proper Methods of Procedure in Figuring Correct Refrigeration Installations." Mr. Noone stressed the point that refrigeration jobs should be figured with ample machine and coil capacity, in order to take care of unforseen emergencies.

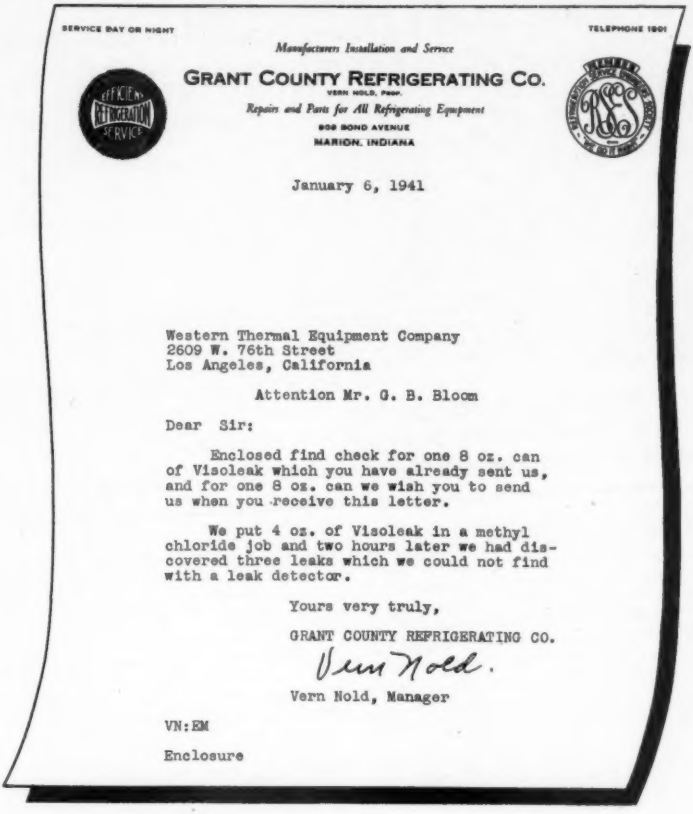
A report of the proceedings at the Seventh Annual Convention, held in Chicago, was given by Mr. Carnell.

A discussion of City Codes took place next with Messrs. Carnell, Biggers, and Galloway volunteering to contact the City Council in an effort to keep the chapter posted on any new developments.

LONE STAR CHAPTER NO. 1

January 6—When the minutes of the previous meeting had been read, the annual election of officers took place, and following the usual procedure, each office was considered individually for nominations from the floor. Almost every office received more than three nominations. The final result, however, was as follows: *President,* H. W. Cline; *1st Vice-President,* Jack Langston; *2nd Vice-President,* J. M. Bibb; *Secretary,* M. D. James; *Treasurer,* Elizabeth Bibb; *Sergeant-at-Arms,* H. M. Biebel. Those appointed to the various committees are as follows: *Investigating Committee*—O. D. Sparkman, Chairman, C. W. Barron, and W. L. Baker; *Committee on Standards*—H. M. Biebel, Chairman, G. L. Tausch, and O. D. Sparkman; *Membership Committee*—Roy Powell, Chairman, M. D. James, and J. M. Bibb; *Visiting Committee*—J. D. Baugh, Chairman, and M. D. James; *Educational Committee*—J. R. Sparkman, Chairman, and H. M. Biebel; *Finance Committee*—G. L. Tausch, Chairman, and G. W. Mark; *Committee on Cost records*—Elizabeth Bibb,

At the Convention, the Question was asked, "WHAT ABOUT VISOLEAK?"



SERVICE DAY OR NIGHT — TELEPHONE 1901

Manufacturers Installation and Service

GRANT COUNTY REFRIGERATING CO.

VERN NOLD, Prop.

Repairs and Parts for All Refrigerating Equipment

808 BOND AVENUE

MARION, INDIANA

January 6, 1941

Western Thermal Equipment Company
2609 W. 76th Street
Los Angeles, California

Attention Mr. G. B. Bloom

Dear Sir:

Enclosed find check for one 8 oz. can of Visoleak which you have already sent us, and for one 8 oz. can we wish you to send us when you receive this letter.

We put 4 oz. of Visoleak in a methyl chloride job and two hours later we had discovered three leaks which we could not find with a leak detector.

Yours very truly,

GRANT COUNTY REFRIGERATING CO.

Vern Nold.

Vern Nold, Manager

VN:EM

Enclosure

THIS LETTER TELLS THE STORY BETTER THAN WE CAN

● Here is the best means ever developed for detecting leaks in any refrigeration system. Absolutely safe to use with **any refrigerant,** non-corrosive, and non-inflammable, you simply add a few ounces to the highside of the system. As soon as complete circulation has occurred, the most minute leak will show up as a blood-red drop.

WESTERN THERMAL EQUIPMENT COMPANY

2609 West 76th St., LOS ANGELES

REFRIGERATION MEN! You've Been Asking for a Chance to Crash This Profitable New Market.

FLUORESCENT LIGHTING!... *Here it is!*

• From our complete line of Fluorescent Lighting Fixtures, we have selected the 20 most popular styles for Home, Office, Store and Factory. These we have arranged in a special knock down sales kit containing all essential fixture parts; included are enough ballasts, sockets and tubes to assemble up to 10 complete fixtures. Parts are selected so that you may assemble any one of the 20 fixtures or up to 10 complete fixtures. Our purpose is to make available to you a complete line of fixtures for immediate resale requiring the smallest possible investment, and to deliver these at the lowest cost. Even with our low list prices, your mark up will range from 100 per cent to 137 per cent.

Kit includes: 11 Deluxe fixtures with beautiful chromium plated end caps. 9 Sturdy Factory and Utility fixtures—18″ to 48″ long. 15 to 160 Watts. Enough electrical parts to assemble up to 10 complete fixtures with tubes.

AND! Our complete training course covering the entire field of assembling, servicing and Selling Fluorescent Lighting, a course easily worth $35 to $40.

Total assembled list price fixtures, electrical parts and tubes.....$214.95
Training course 35.00

(Note: All ballasts and tubes made by General Electric Co.)

TOTAL $249.95

Under our special offer—good for a limited time only —all the above is made available to representative dealers for the unbelievable low price of.....$85.00

We reserve the right to limit number of dealers in any sales district. Write now to insure being first in your district!

NATIONAL FLUORESCENT
SALES AND SERVICE COMPANY
404 North Wells Street, Department O, Chicago, Illinois

SPECIAL TRIAL FIXTURE
UTILITY LIGHT
18″ LONG

$1.95 BULB 75c EXTRA PLUS POSTAGE F.O.B. CHICAGO

Ralph Thorpe, and Ralph Dodson.

After some discussion, it was decided that refreshments should be served at the next meeting, and that an invitation be extended to members of the Lone Star ChapterNo. 2 at Fort Worth to attend the meeting.

January 20—The meeting was called to order by H. W. Cline who reported to the meeting as official delegate of the chapter to the Chicago convention. Mr. Cline asserted that his return from Chicago found him a more ardent believer in the National Organization, since events there had so convincingly impressed him with the importance of the Association to the best interests of the men engaged in service engineering.

"Modern refrigeration and air conditioning," he declared, "are being based increasingly upon scientific considerations, and this fact compels men engaged in its service engineering to have a knowledge and skill in precision work. Increasingly, the demands upon the service engineer are for master craftsmanship combined with a comprehensive knowledge of facts. Only those who measure up to requirements will be able to survive."

Mr. Cline impressed upon his hearers the need for sound educational activity within the organization, and promised that, as its President, he would lend every aid to building programs which would possess both interest and the qualities of instructiveness.

The meeting, which was held in the White Rock lake camp of Boedecker and Company, Dallas ice cream manufacturer, featured a presentation by E. J. Stern, of Armstrong Cork Company of Dallas, in the form of a color-film portraying the newest developments in frozen food locker plant equipment and operation. The film included movies made in several plants near Dallas, with which most of the attending engineers were familiar.

The meeting was of the nature of an open house gathering, to which all engineers of Dallas and its surrounding territory had been invited. Beer and sandwiches were served. Arrangements were made by a committee headed by J. M. Bibb, Second Vice-President of the chapter and one of its most active members.

CHICAGO CHAPTER

January 7—After the meeting had been called to order by President Bendl, the report of the nominating committee was called for; and when the slate had been submitted, each office was considered separately, additional nominations being received from the floor. The final outcome was that George Franck made a motion, which was seconded by F. E. Jernberg and duly carried, that one unanimous ballot be cast by the Secretary for the entire group, electing the nominees

IF IT'S A QUESTION OF EFFICIENCY

Carrene, containing moisture and acid, becomes slushy at —110° F. It stays clear after being freed of water and acid by Activated Alumina.

No other desiccant has greater capacity for removal of water or acid from liquid refrigerants than Alorco Activated* Alumina.

Proved in Service

A refrigerant with water content of only 0.03% means trouble a'plenty from frozen valves. Yet one cartridge of 14-20 mesh Alorco Activated Alumina will dry—and that means DRY—20 quarts of refrigerant containing this amount of water; enough to charge twenty household refrigerators.

Of course, we don't recommend the repeated use of a cartridge. But this ability of Activated Alumina to dry such large quantities convincingly proves its high capacity.

Proved in the Laboratory

Perhaps you saw the laboratory setup at the Refrigeration Show in Chicago, demonstrating this drying efficiency. At 110° F. below zero, the merest trace of water in the refrigerant showed up as a cloudy, icy slush in the liquid. (See photograph above.) After drying this same refrigerant by passing it through Activated Alumina, the liquid remained crystal-clear, even at this low temperature. Every bit of water and acid was removed.

Ask your supply house for refrigerator cartridges charged with Alorco Activated Alumina. ALUMINUM COMPANY OF AMERICA (Sales Agent for Aluminum Ore Co.) 2159 Gulf Building, Pittsburgh, Penna.

*Registered Trademark

These manufacturers supply dehydrators charged with Activated Alumina

American Injector Co.
Fedders Mfg. Company
Henry Valve Company
Imperial Brass Mfg. Co.
Kerotest Mfg. Company
McIntire Connector Co.
Mueller Brass Company
Cyrus Shank Company

★ ALORCO ★

ACTIVATED ALUMINA

DRIES REFRIGERANTS DRY

suggested by the Nominating Committee. These officers are as follows: *President,* Peter Bendl; *1st Vice-President,* Otto Hladilek; *2nd Vice-President,* R. L. Hendrickson; *Treasurer,* Harry Busby; *Secretary,* Myer Axelrod; *Sergeant-at-Arms,* Paul La Marca; *Educational Director,* A. F. Hoesel; *Board of Directors,* Steve Archie, H. R. Getty, John Strub, Harry Bernhart, F. E. Jernberg.

The retiring Secretary's annual report, including both the financial and progress reports, was read, and R. L. Hendrickson was appointed by President Bendl to audit the books of the Secretary.

The new officers were immediately installed, and President Bendl asked for a motion from the floor to present the outgoing Secretary with the sum of $25 in appreciation of his fine services. However, the Secretary expressed his thanks and turned the $25 over to the Entertainment Committee.

CENTRAL NEW YORK CHAPTER

January 9—Weldon Andrews was called upon to give an account of the New York Chapter Charter Convention held at Albany, New York.

The next matter discussed was ways and means of interesting new members in the Chapter. It was felt that better educational programs would be the most attractive part of the meeting to new members, and that, therefore, the educational programs should be improved and planned far in advance. It was announced that the chapter had decided upon a new meeting place and that the next meeting would be held at Andrella's, 310 N. West Street.

CENTRAL ARIZONA CHAPTER

January 3—The meeting was devoted primarily to the election of officers and to the formulating of plans for the coming year. Eighty per cent of the total membership was present for the meeting and many interesting points were discussed. The officers elected for the coming year were: *President,* R. S. Peel; *Vice-President,* Chester Hines; *Secretary and Treasurer,* LeRoy Davis. At the same time, a delegate and an alternate to attend the National Convention in Chicago were appointed.

ST. LOUIS CHAPTER

January 9—The meeting was called to order by President O. E. Petri, and the election of officers was the main order of business for the evening. After following the usual routine of annual elections, the following results were obtained: *President,* O. E. Petri; *1st Vice-President,* E. C. Fix; *2d Vice-President,* J. O. Spitznagel; *Secretary-Treasurer,* L. L. Vollman; *Sergeant-at-Arms,* C. H. Tiemann; *Board of Directors,* A. H. Huhn, L. C. Haney, E. A. Plesskott.

On the educational program for the evening an industrial film entitled, "Your Manila Cigar," was shown and enjoyed by all those present.

ROCKFORD CHAPTER

December 16—The meeting was called to order by Acting President, Earl Seaton, who also won the attendance prize. A delegate and an alternate to the National Convention were elected by the group, after which the business meeting adjourned, and the rest of the evening was spent in viewing motion pictures shown by Herman Goldberg.

January 6—The attendance prize was won by V. Raymond Kruse. Greeting cards from other chapters were read, and the Auxiliary Christmas Party was discussed, with everybody present commenting on how nice the party had been.

For the educational part of the meeting, Fred Barney conducted an educational quiz contest which proved very interesting.

January 20—The delegate to the National Convention, Ed Reynolds, gave a running report of each day's activities and of each of the educational programs held during the three-day period.

ONTARIO MAPLE LEAF CHAPTER

January 10—H. Donnell presided over the meeting, and the minutes of the previous meeting were read by Assistant Secretary, J. C. McKee. A considerable part of the evening was spent in discussions of the forthcoming Annual Convention sponsored by the chapter, and reports of various committees were received on the progress made to date. The Publicity Committee reported that a large part of its publicity material was ready for the mails and that it was the plan ot send out three separate mailings, comprising folders outlining the program for the convention and giving other pertinent information.

National President Gordon Burns provided the chapter with a great deal of information concerning the National Society and its planned activity for the following week.

On the educational program for the evening, Mr. Marshall showed two films, produced by the Anaconda American Brass Company, entitled, "From Mine to Consumer." This film covered the mining, milling, and processing operations of the copper from its original form to the finished copper products.

STREAMLINE PRODUCTS

TRADE MARK REG. U. S. PAT. OFFICE

These METAL CAPS ON STREAMLINE "SOLDER SEALED" HARD COPPER TUBING PERFORM A MULTIPLE *Service...*

Here are a few advantages:

Our method of sealing carefully cleaned and dried copper tubing with a soldered copper cap was chosen because we consider it superior to any other method in general use.

This cap is substantial enough to resist fracture, damage or accidental tearing off through handling, unless subjected to extraordinary abuse.

It amply protects the ends of the pipe from damage and preserves its careful capillary tolerance so that it arrives at its destination in the same perfect condition as it left the factory.

The cap cannot be accidently left on the pipe when installation is made—and it may be used again to reseal cut lengths of pipe. The cap can easily be removed when installing by heating it slightly with the flame of a blow torch or gas tip.

The cap is colored to indicate the different kinds of pipe as follows:

Government Type K—Green *Government Type L—Copper*
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A few of the officers, committee members, and delegates of the Cleveland Chapter. They are left to right: Top Row: President, A. M. Fenwick; Secretary, W. E. Wright; Treasurer, Karl Debes; Chairman of the Entertainment Committee, Glen Keller. Bottom Row: R. D. Chown and J. Ostrander, members of the Entertainment Committee; George Schuld and Otto Sipple, delegate and alternate to 1941 convention.

CLEVELAND CHAPTER

During a recent meeting of the chapter, Secretary W. E. Wright provided the members with the following recap of the year's activities and his personal observations:

"After a very busy and active year among our membership, your Secretary feels that our chapter has accomplished a good many things to better the education of our members and to improve the quality of our meetings.

"Our Price Book, developed in previous years, has enjoyed a very good sale during the past year, and a noticeable increase in the number of members using them as a guide to more profits in their businesses, indicates the usefulness of the book. We have discovered through various means that we have a tremendous amount of engineering ability, education, and experience among the members of our chapter, a fact which has been proven by the educational programs put on and participated in by these members. The programs have included quiz contests, talks on different applications of refrigeration, lectures on special subjects pertaining to our business, and many other miscellaneous instructive items. Much credit for these programs can be given to Jim Downs, Chairman of our Educational Committee, and the members of his committee.

"Indicative of the high standard of our membership is the fact that fifty per cent of our members are Certificate Members, which we feel is an extremely high percentage.

"Our Entertainment Chairman, Glen Keller, has done a remarkable job during the past year, and has succeeded in giving us some real entertainment, including birthday parties, steak dinners, chicken dinners, and last, but not least, our 1940 Christmas Party, which we feel topped them all. This party consisted of a full-course dinner, twenty-eight acts of floor show, dancing, and a general good time for everyone. Candy was provided for the kiddies, and prizes for the adults. About 125 people attended."

DES MOINES CHAPTER

January 3—This meeting was devoted primarily to the election of new officers, who are as follows: *President,* Gene Lauerrenz; *Vice-President,* Fred Crockett; *Secretary,* O. A. Luepke; *Treasurer,* Dave Gasperl; *Sergeant-at-Arms,* H. R. Brewster.

COLONELS CHAPTER

January 2—The meeting was held at Argo Grill and presided over by President Tingle. The officers elected at the previous meeting were installed. Upon taking his new office, President Shuell introduced E. J. Dicken as Master of Ceremonies, who requested that each one present stand up and

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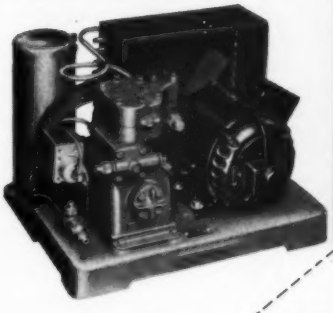

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identify himself to the group. After this general introduction, A. L. Gruber, Regional Director of the National Society, was introduced and presented Certificates of Proficiency to Messrs. Shuell and Moore, congratulating them upon their success in passing this examination. He then explained the operation of the National Society and its aims in getting out interesting educational information. He also asked the group to feel free at all times to submit suggestions on how the National Society may be of more help to the chapters and their members.

January 16—One of the first orders of business was the report of Delegate E. K. Tingle on the activities of the National Convention held in Chicago. Mr. Tingle also outlined the very useful information gathered at the Secretaries' Luncheon in the afternoon of the first day.

A discussion of refrigerant characteristics was held during the educational program, with everybody chipping in with his ideas. A number of small tanks of refrigerant were then passed around, and all members were asked to guess the weight of the refrigerant contained in each tank. It was considered that if any of the members could guess within one pound of the correct weight, he would be a good guesser. However, no one seemed to come that close on the actual weight.

MILE HIGH CHAPTER

January 8—A report from Paul Bowman, Secretary of the Bowling League, showed the R.S.E.S. team holding a satisfactory lead. A motion proposed and passed by the members present provided the delegate to the National Convention with a total of $25 towards his expenses, and the delegate was instructed to gather facts and ideas on the formation of a Ladies Auxiliary Chapter.

On the educational program, a moving picture of locker plants was shown, after which refreshments were served and the meeting adjourned.

MADISON CHAPTER

January 9—This, the annual meeting of the chapter, was preceded by a delicious dinner at the Capital Hotel.

Upon completion of the dinner, the minutes of the last meeting were read and the Treasurer's report was received. President Quam then called on the Nominating Committee for their recommendations in the election to follow, and when the report had been given, the election proceeded in the usual manner, the results of which follow: *President,* Harry Streich; *Vice-President,* Knute Spilde; *Secretary,* A. L. Robert-

son; *Treasurer,* Vince Sweeney.

In the open discussion that followed the business session, Clarence Buschkopf, Regional Director for the territory, gave a short talk.

TWIN CITY CHAPTER

January 7—The chapter assembled at the Hamline Hotel for a dinner meeting and social get-together. After the dinner was over, the meeting was called to order by Mr. Warner, and the new officers elected at a previous meeting were then introduced. The meeting was then turned over to the new President.

On the educational program, Mr. Otterholm provided an interesting discussion on coils, their uses, and some of the troubles experienced with them.

MOUNT ROYAL CHAPTER

The chapter recently held its annual election of officers with the following results: *President,* R. McCullough; *1st Vice-President,* B. Lacerte; *2d Vice-President,* W. B. Myers; *Corresponding Secretary,* J. A. St. Laurent; *Recording Secretary,* R. Brault; *Treasurer,* J. M. Turner; *Sergeant-at-Arms,* R. Andrews; *Educational Chairman,* Gordon Roe; *Board of Directors,* R. Turner, L. J. Boucher, J. A. Tremblay, H. Desrosiers, D. C. Hyat.

NIAGARA FRONTIER CHAPTER

John K. Bush was elected President of the chapter at an annual election of officers held in Club Como. He succeeds John Muller and is also President of the New York State Association.

Other officers for the coming year are: *Vice-President,* Stanley Szyszkowski; *Secretary-Treasurer,* William Goeckel; *Sergeant-at-Arms,* Peter Rosenberger. Elected to the *Board of Directors* were Ted Scherwin, Joseph Askin, and Ralph Davis. Mr. Szyszkowski was elected a member of the State Board of Directors to succeed Mr. Davis.

Mr. Bush appointed Mr. Szyszkowski Chairman of the Entertainment Committee for the coming year and Mr. Scherwin Chairman of the Educational Committee.

CENTRAL INDIANA CHAPTER

January 29—The chapter held its annual get-together party in the Indiana General Service Club Rooms, Marion, Indiana. From the beginning of the dinner at 7:30 p.m. until the end of the entertainment at 10:30 p.m., everybody present was more than pleased. The entertainment was a success in several points of view. First, it was

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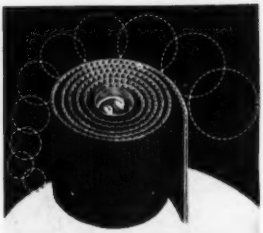

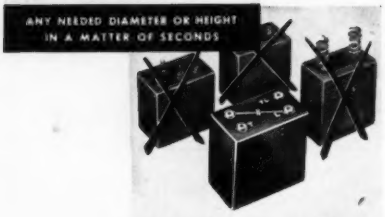

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held in one of the finest club rooms that is known between Detroit and St. Louis; second, there were seventy-six people present who were connected with the refrigeration industry.

The Honorable Mayor, Carl F. Barney, gave a speech of welcome.

Mr. L. J. Pitcher gave a very interesting talk concerning the service man's chance to advance in the industry. He represented Peerless of America, located in Indianapolis, Indiana; also present was Mr. Samuel Horine, Manager of the Refrigeration Department of the Central Supply Company, refrigeration jobber at Indianapolis, Indiana.

The International Harvester Company presented a motion picture and description of refrigeration which was as simple and self-explanatory as could possibly be shown. Mr. W. L. York of their refrigeration division presented these pictures along with a talk describing their product.

Following the pictures from the International Harvester Company, William Norwood and Vern Nold presented a skit, in which it was shown to the audience that a service man would save many times the price of his yearly dues by belonging to the R.S.E.S., which brought a great laugh from the audience, and also was the means of obtaining six new members and one request for transfer to the Central Indiana Chapter.

Following the skit was the last of the program entitled, "A New World Through Chemistry," by DuPont, which was an education in itself.

The Central Indiana Chapter wants to express its thanks and appreciation through these columns to the manufacturers and the Indiana General Service Company, whose cooperation was heartily given.

As a result of this very enjoyable meeting, several new members joined the chapter. These were as follows: W. L. York, William Norwood, Charles Penrod, James A. York, Shirley Smith, Oren K. Huckery.

Vern Nold, the prime mover and hard-working member behind the arrangements for this enjoyable party, was given a rousing vote of thanks for arranging and carrying out the program.

TRI-COUNTY CHAPTER

December 20—This meeting was held at the Hotel Louis Joliet. After some discussion the chapter went on record as suggesting that the next State Convention be held in the Leland Hotel in Aurora, and that the dates be October 18 and 19.

On the educational program, Mr. Johansen talked on ammonia systems and their controls. He told of his entry into ammonia work, after having been connected with carbon dioxide work for sometime, and brought

out the fact that he had done considerable service on ammonia highside floats as early as 1924. It was not long after this period that the automatic expansion valve and thermostatic expansion valve made their appearance. The first thermostatic expansion valve, he explained, was charged with liquid ammonia from the liquid line of the system, which provided the means of quickly charging the thermal element in case a leak developed. Mr. Johansen spent considerable time in answering the questions of the members following this talk.

MISSOURI VALLEY CHAPTER

January 4—The meeting was held at the Nebraska Power Building, and the annual election of officers was the main business of the evening. The officers elected were: *President*, F. C. Haeberlein; *Vice-President*, Elton Lewis; *Secretary*, Gordon Lozier; *Treasurer*, F. V. Ferguson; *Sergeant-at-Arms*, A. L. Mahan; *Educational Chairman*, Jesse M. Hart.

YOUNGSTOWN CHAPTER

January 21—Mr. Keith gave an interesting talk outlining the proceedings and points of interest, as noted by him, at the Seventh Annual National Convention in Chicago. He also discussed at some length some of the many fine suggestions made at the Secretaries' Luncheon on the first day of the convention. These suggestions brought out new ideas from members in the meeting, with the result that a general discussion arose relating to various means and ways of increasing membership and of promoting the welfare of the chapter.

DAYTON CHAPTER

January 9—The meeting was called to order by the retiring President, R. J. Brown. Several minor matters of chapter business were brought up and thoroughly discussed. The installation of officers took place, and the rest of the meeting was conducted by the new officers.

A vote of appreciation was given Mr. Brown and Mr. Snyder for their excellent services in the past year, and the meeting was then adjourned.

January 23—The members of the chapter met at the Dayton Rubber Company, where they enjoyed a dinner, served in the Cafeteria of the plant, and a tour through the plant. Each one present was given a souvenir in the form of an ashtray inserted in a rubber tire.

The tour through the plant provided the members with an excellent picture of crude rubber as it is received at the plant and the processes through which it passes before

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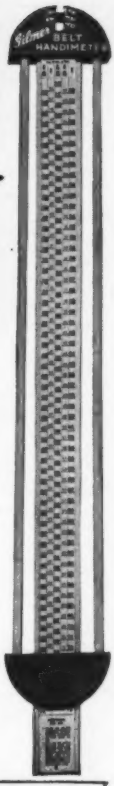

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it becomes the finished product. All the various stages of treatment necessary to the production of either a rubber tire or a series of rubberized belts were shown.

OIL CAPITAL CHAPTER

January—The meeting was called to order by E. H. Churchwell, President, and a new appointment to the Membership Committee was made in the person of C. I. Evans. Other members of this committee are Phil R. Brady and T. T. Gillette.

A delegate and an alternate to the National Convention were elected, with E. H. Churchwell and K. G. Wight receiving the most votes. A portion of the expenses for the delegates was voted to be paid out of the Chapter Treasury.

MONUMENTAL CHAPTER

December 4—Because so little action had been obtained on the matter of a refrigeration code, a new committee was appointed at this meeting to follow the matter through. This committee consisted of Messrs. Starkey, Roche, and Gibbons.

E. J. Roche was elected delegate to the Seventh Annual Convention, and registration fees, if any, for the delegate are to be paid by the Chapter.

AKRON CHAPTER

December 2—The main order of business for the evening was the election and installation of officers, the following being elected: *President,* William Moyer; *Vice-President,* Robert W. Fox; *Secretary,* Cervera L. App; *Treasurer,* Claude L. Wall; *Sergeant-at-Arms,* Ralph Husted; *Directors,* Lee Barnaby, Joe Moore, Jack Englert.

During the course of installing the new officers to their offices, the retiring President, Mr. Moore, gave an eloquent farewell speech, stressing the need for cooperation. He then turned the chair over to President-Elect Moyer, who gave an equally able acceptance speech.

A true-and-false quiz contest took up the rest of the meeting, with everybody agreeing that this type of entertainment was very instructive. The arrival of sandwiches and coffee, served by the ladies, broke up the meeting, which was willingly abandoned in favor of the refreshments being served.

WORCESTER CHAPTER

December 3—Immediately after the meeting was called to order, the drawing for the attendance prize took place. The prize was an electric alarm clock, and it was won by President Tom Cronk.

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On the educational program, Mr. Goodney demonstrated how to determine the amount of moisture a dryer has absorbed from a system; many questions arose on this subject and the discussion continued for sometime.

The final event on the educational program was the presentation of a colored movie showing a recent trip made by Mr. Taylor to Washington, D. C.

\$ \$ \$

Ladies Auxiliary

ROCKFORD AUXILIARY

On December 22, the Auxiliary held its Christmas party at Perryville Grange Hall during the late afternoon. Santa arrived early, giving each child a gift and a sack of candy. It was difficult to determine who enjoyed the toys most, the children or their parents. Community singing and dancing around the Christmas Tree was followed by a Pot Luck supper held in the basement of the building. The party was so successful that all the members are looking forward to another next year.

The meeting of January 6 was called to order by the President, and the preliminary routine of business was dispensed with. A motion was made and duly carried that the Auxiliary donate a little money to the Perryville Grange Hall in appreciation for the use of the Hall and Christmas Tree during the Auxiliary's party. Mrs. Overman was appointed delegate to the National Convention.

On January 20, the delegate gave her report of the proceedings of the Third Annual Convention of the Ladies Auxiliary, informing the Auxiliary of the choice made in the national election of officers, and also reporting the change in the fiscal year of the Auxiliary. She pointed out that dues paid in the future should be pro-rated so that they would all come due at the same time. After the meeting had adjourned, a very nice lunch was enjoyed by the ladies, and the rest of the evening was spent playing Jewish Poker. Mrs. R. C. McCarthy won the first place, Mrs. A. W. Overman, second, and Mrs. O. H. LaBuddle, low.

PITTSBURGH AUXILIARY

The meeting of December 13 was held in Gammon's Restaurant, where the annual election of officers took place. Those elected were: *President,* Mrs. H. A. Biber; *Secretary,* Mrs. L. H. Blose; *Treasurer,* Mrs. John Barbagello.

The Christmas party was held on December 7 at the home of Mr. and Mrs. S. C. Perry in Carrick. The entertainment of the evening consisted of various games and a demonstration by a magician. Prizes were given for the winner of each game,

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the winners of prizes being Mrs. Meharg, Mrs. Terrill, Mrs. Roy, Mr. Barbagallo, Mr. Riddle, Mr. Belec, and Mr. Ross. A very delicious lunch was served after the games, and the ladies joined the men in thanking Mr. and Mrs. Perry for the very enjoyable evening they had provided and for the hospitality of their home.

TRI-STATE AUXILIARY

The meeting of December 5 was at the home of Mrs. Forrest Poole, Portsmouth, Ohio. During this meeting, Mrs. A. W. Gruber was appointed delegate to the National Convention. The entertainment of the evening was provided by Mrs. Brunton, who had arranged several contests. A light lunch was served by Mrs. Poole.

The annual Christmas Dinner Party was held at the home of Mr. and Mrs. A. W. Gruber, Ironton, Ohio. After a splendid dinner, the party got under way with the exchange and opening of gifts. Mrs. Brunton and Mrs. Cottle took charge of the entertainment, which included games and contests, with prizes awarded to the winners. During the party, a combination waffle and sandwich toaster was presented to the President by Mr. Poole on behalf of the chapter and Auxiliary.

THIRD ANNUAL MEETING OF AUXILIARY

(Continued from page 35)

Kellogg Rial, S. C. Perry, Doris R. Dresback, Irene Walters, Harry Streich.

Tuesday, January 14th

The second day of the annual convention was devoted to a tour through Marshall Field's and other stores of the famous Chicago Loop. The tour started at 10:00 o'clock with nearly all the ladies participating. At 12:30, the ladies enjoyed a luncheon in the Narcissus Room at Marshall Field's.

Wednesday, January 15th

Wednesday of the convention week was spent primarily in parties arranged by the Ladies Auxiliary. The first of these took place at 10:00 a.m. and the second at 2:00 o'clock in the afternoon. Both were held in the South Ballroom in the Stevens Hotel, and both offered many lovely prizes for the winners of the games played.

All of the entertainment enjoyed by the visiting ladies was sponsored by the R.S.E.S. Ladies Auxiliary, and after all expenses were paid, it was gratifying to note that the Treasury still contained a fair balance.

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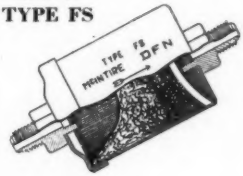

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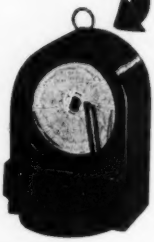

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FRIGIDAIRE OFFERS FOUR YEAR EXTENSION PROTECTION PLAN

ALL owners of 1936 Frigidaire electric refrigerators with sealed-in rotary type cold-making units will be offered, this year, an extended protection plan on the unit, according to an announcement by Frigidaire Division, General Motors Sales Corporation. The offer applies, at this time, only to 1936 units as models sold and installed that year are the first to reach the expiration date of the company's five year protection plan which was offered originally in 1936, the announcement said.

Under operation of the extended protection plan, the payment of $10 by a user of a 1936 model will provide a four year extension of the warranty period. It is stipulated in the plan that each user who wishes to take advantage of the warranty extension must purchase the new contract before the expiration date of the original warranty. For instance, if a user purchased a 1936 model Frigidaire household refrigerator on March 15 of that year, the extended protection plan must be applied for prior to that date this year.

The extended protection plan, Frigidaire sales officials state, entitles the user to all advantages of the original warranty contract. Payment of $10 for the extended plan is, in effect, a premium on an "insurance policy" against service expense on the sealed-in "meter-miser" rotary unit during the subsequent four year period.

IRVING JACOBS KNUDSON

IRVING JACOBS KNUDSON, Manager of the Refrigeration and Air Conditioning Division of Detroit Lubricator Company, died January 7 in Tucson, Arizona, after a long illness. He was born April 11, 1891.

Mr. Knudson resided at 211 Abingdon Road, Kenilworth, Illinois, and had gone to Tucson about a month before his death, in an effort to improve his health. He is survived by his wife, Lucy, and a daughter, Dorthea. Interment was at Graceland Cemetery, Chicago, on January 11.

Mr. Knudson's business career had been spent almost entirely with the Detroit Lubricator Company and its parent company, The American Radiator and Standard

Watch for it!

YOUR NEW 1941

AIRO Catalog and Buyers' Guide

WILL BE READY

SOON

Send Requests Now!
Please Use Letterhead

AIRO SUPPLY COMPANY

2732 N. ASHLAND AVE

CHICAGO ASC ILLINOIS

YOUR BEST BET

FOR AN ALL-AROUND SOLENOID VALVE FOR THE CONTROL OF AIR, GAS, WATER, LIGHT OILS, STEAM AND REFRIGERANTS

GENERAL CONTROLS SERIES K-15

General Controls Type K-15 Solenoid Valve is unsurpassed for dependable refrigerant control. Valve is full ported and capable of handling large capacities at a minimum pressure drop. The solenoid is fully powered to provide instant full-opening, and is current-failure to allow for positive closure in current emergencies. Closing with the line pressure on top of the seat insures a tight shut-off, year-in and year-out.

Ask for New 1941 Catalog

GENERAL GC CONTROLS

267 Fifth Avenue NEW YORK CITY

450 East Ohio St. CHICAGO, ILL.

Distributors and Stocks in all Principal Cities

Sanitary Corporation. Starting with the selling of the old type cast iron sectional type of evaporators, he later earned a place at the top of the list for himself in the sales promotion of the expansion valve.

IRVING JACOBS KNUDSON

He was always ready to give freely of his time and efforts in any association work within the industry. His interest in the Refrigeration Equipment Manufacturers Association and their annual show added materially to its rapid growth. As a member of the American Society of Refrigerating Engineers, he always took an active part in its affairs, both locally and nationally.

Mr. Knudson was a graduate of the University of Illinois. During the World War, he was wounded in France while serving with the A.E.F.

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FEDDERS SALES CONVENTION

"WATCH FEDDERS IN 1941," was the theme of the three-day national sales convention held Wednesday, Thursday and Friday, January 29, 30 and 31 in Hotel Statler, by the Electric Refrigeration Division of the Fedders Manufacturing Co., Inc. Fedders branch managers and sales representatives from all sections of the United States and Canada attended.

T. C. Fedders, Vice President and General Manager, delivered the welcoming address.

Sales Meetings were in charge of William D. Keefe, Sales and Advertising Manager. Engineering sessions were lead by Joe Askin, Chief Engineer, and B. B. Rhodes, Assistant.

1941 Advertising Plans were presented by

USE

SOLIDS-LIQUIDS-GASES-SOLIDS-LIQUIDS-GASES-SOLIDS

DRIERITE

FOR DRYING AIR REFRIGERANTS INDUSTRIAL GASES

DRIERITE is an Efficient, Rapid, Economical Dryer for all the Modern Refrigerants. Dries both by Chemical Action and Adsorption.

Used in Dehydrators by leading manufacturers and furnished to the Service Engineer by leading Supply Dealers.

Write for literature.

W. A. HAMMOND DRIERITE COMPANY
YELLOW SPRINGS, OHIO

Hermetic Rebuilding

One year's guarantee on rebuilding these refrigerator units

FRIGIDAIRE • MAJESTIC • SERVEL • WESTINGHOUSE • CROSLEY • GIBSON • COLD SPOT • U. S. RADIO • GENERAL ELECTRIC

Our prices are the lowest, send for price list.

CHICAGO HERMETIC REBUILDERS
4379 ELSTON AVE.
PALisade 0881 CHICAGO PALisade 6118

Refrigeration Controls Repaired

Cold Controls • Relays • Pressure Switches

Electrolux Gas Controls

DOMESTIC

Reconditioned in one to three days with an unconditional one year guarantee.
Burned contacts & defective parts replaced.
Defective bellows, lines, & bulbs changed.
All bellows dehydrated and newly charged.
Each control reset and cycle tested.

COMMERCIAL

Original Factory Specifications

Satisfactory Prices Return Postage Paid

UTILITY THERMOSTAT CO.
4011 Halldale Ave. Los Angeles, Calif.

Horace A. Laney, Advertising Counselor.

J. M. Heimerl, Director of purchases and materials, outlined Fedders policies in respect to procurement of materials as a safeguard to volume production and deliveries.

W. D. KEEFE

W. E. Detenbeck, Secretary and Factory Manager, arranged for a tour through all divisions of the Fedders plant.

The display of the 1941 Fedders lines of electric refrigeration products was open to the public on Friday, January 31st, from 12 noon until 9 P. M.

Charles P. Rittling, New York and Pennsylvania Representative, was in charge of the pre-view showing on Friday.

AUTOMATIC ADDS COPELAND LINE

AUTOMATIC Heating & Cooling Supply Co., 647 W. Lake St., Chicago, Ill., has added the Copeland line of genuine replacement parts and are listed as authorized distributors.

They will carry a complete stock of Copeland parts at all times.

MUELLER BRASS COMPILES JOBBER PORTFOLIO

"MORE Business or How the Mueller Brass Company Helps the Jobbers to Merchandise" is the appropriate title of a very attractive 12 x 17 inch portfolio recently placed in the hands of Mueller jobbers. The purpose of this book is to point out to the jobber the effective way that the Mueller Brass Company supplements the sales efforts of the wholesale personnel.

Increase Your Profits
by
Widening Your Field!

Refrigeration—Complete training will mean better work, fewer call-backs and more efficient service.

Air Conditioning—With your refrigeration experience you already have a head start in this rapidly expanding field.

Welding—Get into the BIG jobs and the big money by adding welding to your refrigeration service.

Brazing and Silver Soldering—Every real refrigeration service and installation man should know how to braze and silver solder. Special short course.

WRITE FOR DETAILS

UTILITIES
ENGINEERING INSTITUTE
1314 Belden Ave., Dept. 592, Chicago, Ill.

It's Portable - It's Profitable

SAVES CALL-BACKS, DELAYS ...PAYS FOR ITSELF OUT OF GAS and OIL SAVINGS

Get the Dayton V-Belt Service Kit for "on the job" V-Belt replacement service for all leading makes of automatic refrigerators—this compact, durable Swedish Fibre case contains visible assortment of 43 fractional horsepower V-Belts plus handy V-Belt Matchometer —only $23.48. See your jobber or write.

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO

The portfolio contains samples of the actual dealer helps, including broadsides, catalogs, blotters, folders, direct mail pieces, labels, tags, packages, trade paper advertising, display layout, cuts, letterheads, bulletins, and a number of other equally attractive and helpful suggestions.

Much can be said for the manner in which the portfolio supplies pertinent information for better selling.

A plastic binding adds to the other appealing features of the book.

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MARSH PERSONNEL CHANGES

IN keeping with their program of expansion designed to take care of increasing business, Jas. P. Marsh Corporation, Chicago, announces the following:

Jas. Emmett, Jr., has been appointed Assistant Sales Manager.

O. W. Hage has been appointed Manager of the Gauge Division.

E. C. Kluger has been appointed Manager of the Heating Division.

Messrs. Emmett, Kluger and Hage have all been with the company for a number of years and are well acquainted with the trade.

NEW CATALOGS AND BULLETINS

ROTARY SEAL CO., 809 W. Madison St., Chicago, has just issued a new 1941 stock list of Rotary Seal replacement units which may be secured upon request.

The list is in such form that it can be kept in a reference file or posted in a convenient place in the repair shop. Added to the standard stock list of seals this year are the following:

Make of Compressor	Stock Number	List Price
Baker	3405	$ 3.70
Baker	6407	6.60
Baker	17409	17.00
Brunner	6369	6.60
Brunner	6368	6.60
Curtis	9291	9.40
Mills	6138	6.60
Norge	3212	3.70
Sanitary	2380	2.90

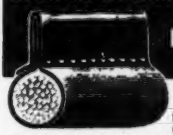
DAY & NIGHT MANUFACTURING COMPANY, 2320 E. Eighth Street, Los Angeles, California, manufacturers of water and beverage coolers, has issued a new 56-page catalog of

Now that the Convention is over, we can all get ready for next season

Better check up right now on your stock of spare parts, tools and supplies. Remember you can't beat Blythe on price, quality or service. Send on your letterhead for our catalog.

H. W. BLYTHE CO.
2334 So. Michigan Ave., Chicago

DENNIS GASKETS
FOR ALL MAKES REFRIGERATOR DOORS



A complete line of rubber-coated, packed Gaskets and extruded rubber Gaskets that last longer—retain higher efficiency—because made of finest materials and workmanship. Write for free samples, giving your jobber's name and address.

W. J. DENNIS & CO.
2110-20 WEST LAKE ST. ··· CHICAGO

COLD CONTROLS & EXPANSION VALVES
repaired or exchanged
at the following prices, F.O.B. Chicago

Automatic Expansion Valves (All Makes)	$1.25
Thermostatic Expansion Valves	3.00
Automatic Water Valves	2.00
Domestic Cold Controls (Modern Type)	2.00
Commercial Controls (Temp. or Pressure)	2.50
Commercial Dual Controls	3.00

ALL WORK GUARANTEED FOR 90 DAYS
Write for quantity prices
NEW DUTY
2424 Irving Park Blvd., CHICAGO

CONTROL REPAIR SERVICE

Domestic Controls reconditioned equal to new at a small cost. All work guaranteed for one year. Prices upon request.

United Speedometer Repair Co. Inc.
342 W. 70th Street
New York City

their products. The catalog contains listings, specifications, and load data on coolers ranging from the smallest office or home size to those required for bakeries and bottling plants.

Beer, beverage, and water-cooling combinations, together with applications of the water cooler to soda fountains, occupies another section of the catalog. Much useful information is contained in this book on the problems of water cooling which makes it a valuable addition to your file.

Write the company direct on your letterhead for a copy.

TEMPRITE PRODUCTS CORPORATION, Detroit, Michigan, has issued a new pocket-size catalog containing twenty pages of listings, specifications, and useful data on products manufactured by them.

Included in these products are the well-known Temprite instantaneous water cooler in the many styles and sizes required to fit the various uses to which it may be put. Other products are oil separators, equalizer tanks, two-temperature valves, overload-protection valves, accumulators, and high-side floats.

The catalog is obtainable direct from the manufacturer.

BONNEY FORGE & TOOL WORKS have just issued their new catalog, known as catalog No. 41R, covering a complete line of specialized refrigeration tools.

Printed in the popular 8½ x 11-inch page size, it contains 20 pages with each item described and clearly illustrated.

Refrigeration engineers, service men and anyone who needs tools of the type described, should address Bonney Forge & Tool Works, Allentown, Pa., for a copy of this new refrigeration tool catalog.